The Veterinary Record

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 7. FEBRUARY 17, 1934. VOL. XIV.

General Articles

NOTES ON SOME PIG DISEASES*

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I appear as a very indifferent substitute for that illustrious member of our profession, Mr. Henry Gray, who was to have presented a paper at this meeting, but illness prevented his doing so.

It was not my intention to deal with swine fever, but in view of the leading article in *The Veterinary Record* of December 9th, 1933, I feel that this disease cannot be omitted. The writer quotes Captain Noel Pillers, but appears to have missed the point entirely. Captain Noel Pillers stated that during 1932 there were 11,576 reported cases of swine fever, and of these only 1,555 were confirmed. The article then goes on to state that "this shows the high measure of disability under which pig breeders are labouring." This statement is perfectly true, but when the article goes on to say that "the fact that the root of this lies in our lack of knowledge, makes the position the more lamentable," one is startled by its inaccuracy.

While our lack of knowledge of pig diseases in general is to be deplored, the real reason for the preponderance of unconfirmed cases of swine fever has little to do with our knowledge, but is the official method of dealing with any deaths which may take place among pigs.

The procedure is as follows—a farmer loses a pig and reports to the police, who in their turn inform the Ministry of Agriculture of a case of suspected swine fever; apparently in so far as the police are concerned pigs only suffer from one disease. How often one receives instructions to visit premises and finds on arrival a single animal dead!—the cause of death, in most cases, being apparent.

While one is fully alive to the difficulties presented to the Ministry of Agriculture, and appreciative of their caution in dealing with these cases, it is impossible to subscribe to the opinion that our ignorance of pig diseases is the root of the trouble; it is my contention that were the police to instruct the owner to call in his veterinary adviser, a very large number of these cases would be summarily dealt with to the satisfaction of the client, whilst at the same time safeguarding the pig industry generally.

I cannot help but feel that the article was written purely from the official aspect. We are told that "an adequate and full description of the differential diagnosis will no doubt be available eventually for local inspectors and practitioners, and in this connection we ask for their patience." Having been told this same fairy story at varying intervals over a great number of years, even a practitioner's patience wears thin, and anyhow, who, at long last, is going to provide this full description of the differential diagnosis? I submit that unless the "powers that be" fully collaborate with the practitioner, that description will never be forthcoming.

As no doubt you will all have seen the copy of *The Veterinary Record* published on December 9th, I do not propose to describe in detail the symptoms of swine fever, but will be content with stating that it is a septicæmia produced by a filterable virus attacking pigs of all ages, and that the condition may be complicated by the presence of secondary organisms. There is no doubt that the disease is common in this country, but at the same time it is very much open to question whether, in a large number of outbreaks of so-called "mild swine fever" the virus is present or not. I am of the opinion that a great number of these outbreaks are in reality necrotic enteritis.

One is in complete agreement with Dr. Andrews, of Weybridge, when he suggests that a diagnosis cannot be established on one single feature, symptom or lesion; but unfortunately one is forced to regret that this view was not officially accepted years ago, for in the past, the presence of ulceration almost invariably led to the confirmation of the disease, whereas to fail to produce a portion of ulcerated bowel was to make certain that the disease would not be confirmed, irrespective of other data produced.

I once again put forward the theory that outbreaks of acute swine fever are reasonably easy to distinguish when all the available evidence is considered. It is in outbreaks characterised by a low mortality and morbidity that a sharp division of opinion is likely to arise. As it is agreed that animal inoculation is too slow and costly a method of diagnosis, and, further, that material forwarded to the laboratories—particularly during the summer—is of little value, it obviously boils down to the fact that until such time as a reliable laboratory method is discovered, one man, and one man

* Paper presented to the Southern Counties Division, N.V.M.A., at Salisbury, December 15th, 1933.

only is able to make a reasonably accurate diagnosis—that is, the experienced field worker. He has the advantage of having all the data in connection with the outbreak readily accessible, together with fresh specimens as a result of his *post-mortem* examinations. I suppose that it is not beyond the bounds of possibility that there may be men capable of differentiating between ulceration found in true swine fever and ulceration of the bowel of the pig due to other causes. Personally, I believe that ulceration in itself is a most unsatisfactory basis on which to establish a diagnosis. In outbreaks characterised by a high and rapid death-rate, and where petechial hæmorrhages are found, together with diphtheresis and ulceration, there is little doubt as to the causal organism. It is these petechial hæmorrhages that are of vital importance where swine fever is concerned. It is rare to find hæmorrhagic lymphatic glands in outbreaks of necrotic enteritis; in these outbreaks the glands usually affected are the mesenteric glands, which are hypertrophied and show varying degrees of œdema. I have very occasionally found petechial hæmorrhages in necrotic enteritis but they have been confined to the kidneys, and then the hæmorrhagic spots have been extremely minute.

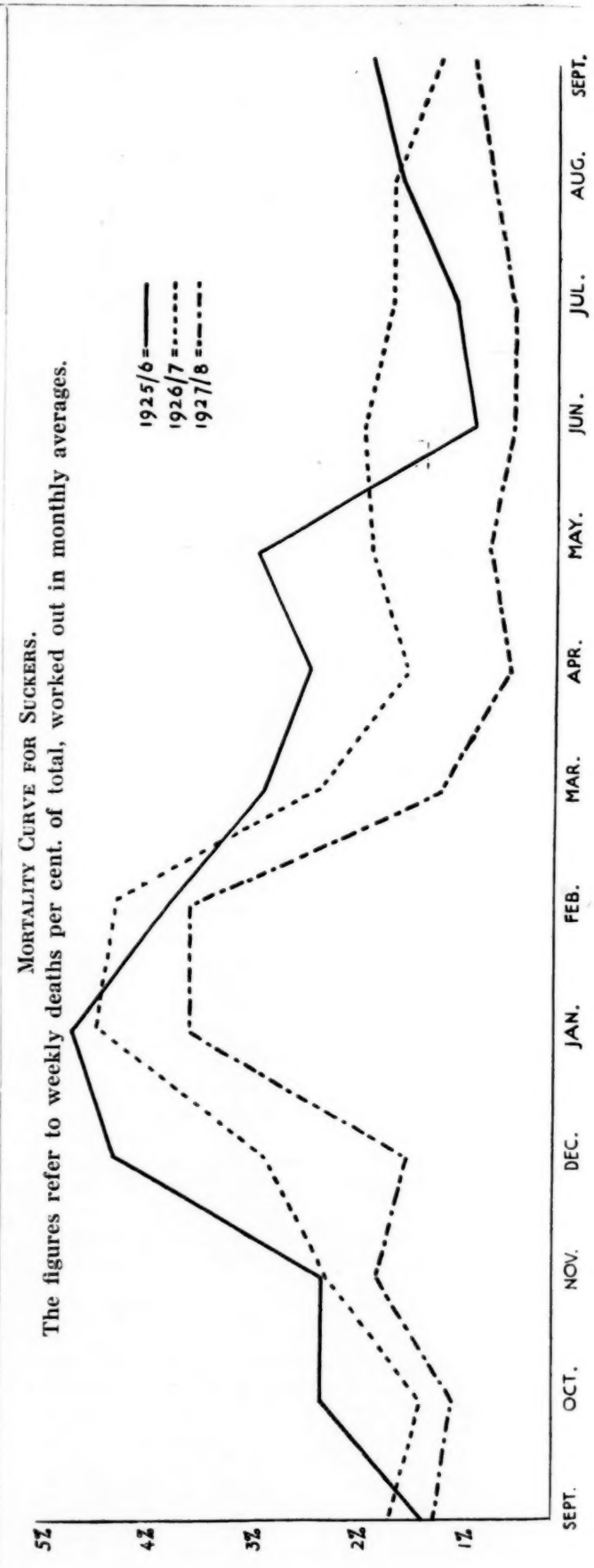
Necrotic enteritis appears to be confined to pigs under six months old; in my experience it is very rare that losses are sustained in animals over that age. It has been suggested that the age of the animal is not an infallible guide in establishing a certain diagnosis. With this I agree, but maintain that it is a big factor, particularly when one has definite records dealing with large numbers, and this is even more apparent when these records also show a seasonal and time factor. It will demand a great deal of theory to sweep them on one side, for they have the all-important virtue of dealing with thousands of animals, and one has not arrived at conclusions following the collection of records of only 50 or 100 animals.

It is remarkable that *post-mortem* examinations made on more than 4,000 pigs revealed not a single case of necrotic enteritis in adult animals.

During an outbreak an experiment was carried out as advised by Dorset, by the use of the serum-alone method in infected premises. American swine fever serum was used, and the experiment carried out on 1,400 pigs, 1,000 being inoculated and 400 acting as controls. Inoculated and uninoculated lived together, with the following results:—

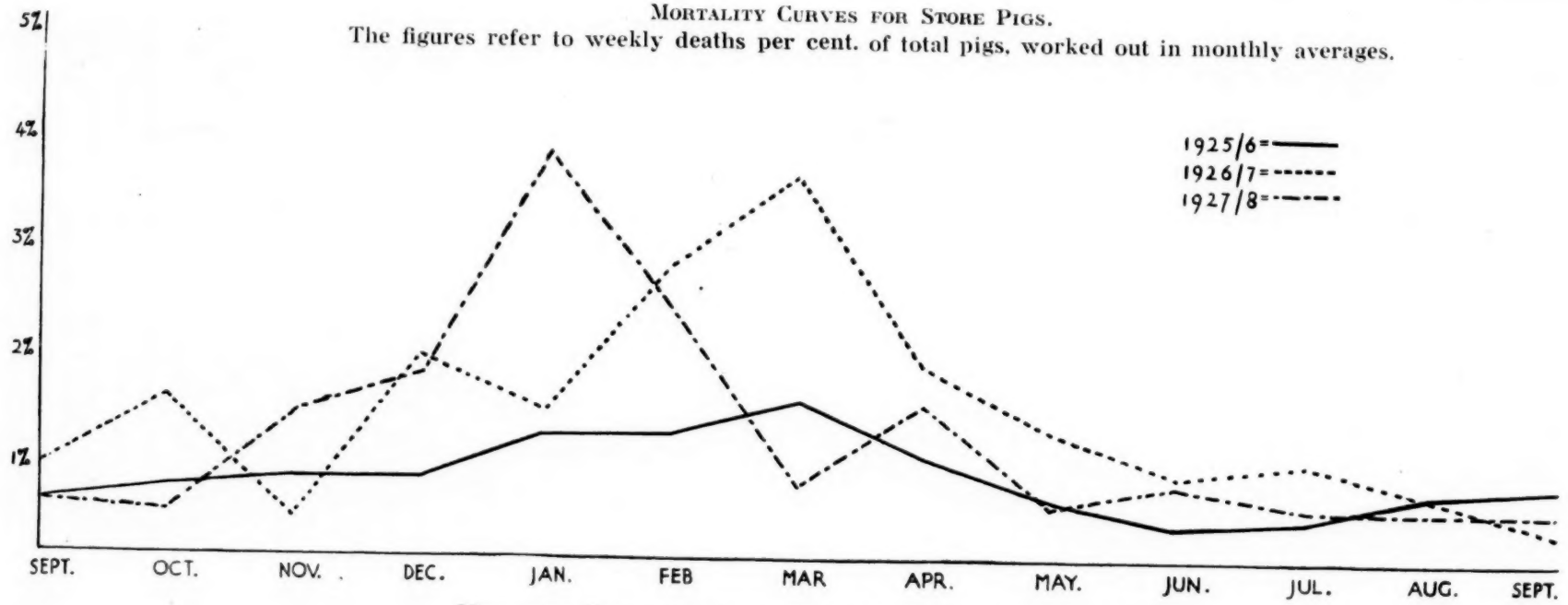
Inoculated pigs	*Percentage of deaths*	*Score*
1,000 ...	10 per cent. ...	79
Inoculated pigs	*Percentage of deaths*	*Score*
400 ...	10 per cent. ...	77

It will be advisable to explain what is meant by the "score." The score is an attempt to

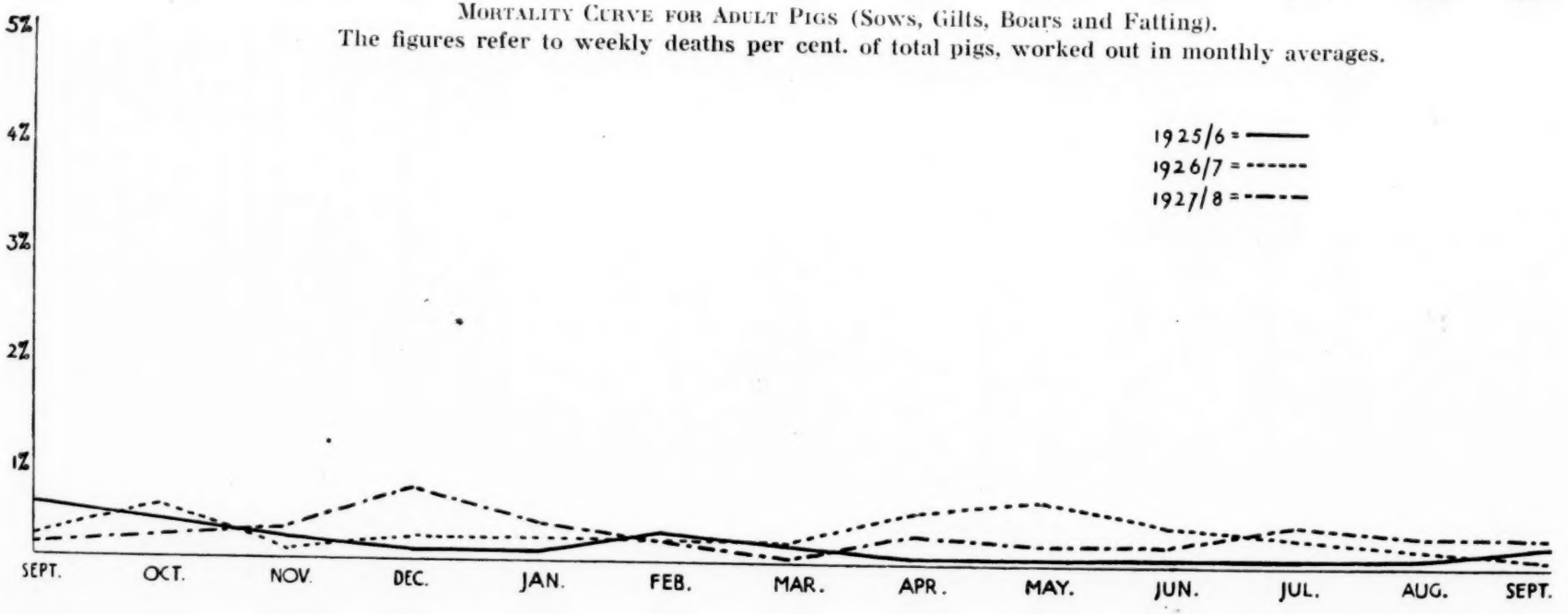


Mortality Curve for Suckers.
The figures refer to weekly deaths per cent. of total, worked out in monthly averages.

MORTALITY CURVES FOR STORE PIGS.
The figures refer to weekly deaths per cent. of total pigs, worked out in monthly averages.



MORTALITY CURVE FOR ADULT PIGS (Sows, Gilts, Boars and Fatting).
The figures refer to weekly deaths per cent. of total pigs, worked out in monthly averages.



show the state of perfection attained by the individual, taking 100 as the maximum number of marks given to the perfect pig at the time of disposal. It is obvious from the result that inoculated pigs had a score of 79, whilst the uninoculated had a score of 77. It will therefore readily be seen that there is practically no difference in value between inoculated and uninoculated at the time of disposal; also, the percentage of deaths was the same in each case. The results, therefore, were disappointing, and as the work done by Dorset is of the highest order, the failure of serum inoculation in this case makes only one conclusion possible, *viz.*, that a virus infection was not present.

It has been claimed that the existence of a low-grade virus is the cause of the so-called "mild swine fever," and while this possibility cannot be ruled out entirely, I consider that at least some definite evidence has been collected to show that in some outbreaks the virus is absent. In outbreaks in which the number of animals in the herd considerably exceeds four figures, and in which the disease has been present for a very long time, one would expect an exaltation of the virus at some time or other. My figures show that at no time during three years was there a flare-up. It may be argued that, owing to the low mortality, some immunity was developed in the pigs concerned in my investigations, but against that I can show that after the disease had been in existence for three years, a number of breeding animals (between 40 and 50) were purchased in different parts of the country and were introduced into the herd; as no special precautions were taken in connection with them, it is most extraordinary that no losses took place among them.

As my object is to produce a healthy and constructive discussion, I will not go into further details dealing with swine fever and necrotic enteritis.

ANÆMIA IN SUCKING PIGS

While there are no figures available in this country showing the losses due to anæmia, it is certain that the number is high. This trouble can truly be said to be a dietetic one and is due to the deficiency of food-forming elements in the sow's milk. It is characterised by a low hæmoglobin content of the blood, retarded growth, loss of vigour, and sudden death. In an article of this length it will be impossible to describe the *post-mortem* lesions found, but possibly a few words on the external appearance of the affected pigs may be of help. In white pigs the skin appears pale and dull, the faint pink tinge associated with the skin of the healthy animal being absent. The eyes appear unduly prominent, the tail hangs limp, and the pig appears listless.

As the power of sow's milk as a blood builder is extraordinarily low it necessarily follows that the margin of safety against the danger of anæmia in the young pig is narrow. The age at which pigs are commonly affected is from three to seven weeks and the most critical period from two to four weeks. As anæmia in sucking pigs is entirely due to deficiency in the sow's milk it will readily be seen that if the young survive the danger period and begin to feed themselves the risk of anæmia from this source is past. The incidence of anæmia is particularly high in herds where the sows are housed in modern buildings with concrete floors and are not permitted to run out-of-doors; the reason for this is not so much that the young animal obtains the influence of direct sunlight as that young pigs, even at a very early age, root and grub about when outdoors and so obtain the necessary blood-forming elements from the soil.

Following the work of the Rowett Research Institute in this country and that of several American workers, a series of experiments on large numbers of pigs was undertaken. This work demonstrated that the feeding of iron salts to the sow did little to raise the hæmoglobin content of the blood in the young pigs, but clearly showed that when a soluble iron salt is fed individually to the young pigs the anæmia is checked. While the individual administration of iron may appear tedious, the fact remains that it is, in the light of our present knowledge, the only satisfactory treatment for correcting anæmia in sucking pigs. In the case of young pigs born during the summer months and run out-of-doors (with free access to pasture) within two or three days after birth, the danger from anæmia is slight. During the first week of life the young pigs subsist entirely on the sow's milk, and at the end of that period the hæmoglobin content of the blood in the suckers is lowered; but at about the end of the second week the young pigs begin to grub about and pick up substances from the soil which correct the mineral deficiency in the milk of the dam, and thus anæmia is prevented. Therefore, in the case of sows farrowing in the open, or where the suckers have access to pasture immediately after birth, the feeding of iron is not necessary.

PARASITES

The problem of parasitic infestation of swine is one of the greatest economic importance to the industry, and it is with regret that the writer views the general apathy in relation to this great problem.

Pigs infested by parasites give quite a typical picture and history, which is as follows: The animals appear healthy and active, their appetite is voracious but they do not show a normal growth-rate, or, if their rate of growth is good they appear long, flat-sided, hollow

animals; later, the animals become dull, the skin looks unhealthy, the appetite becomes capricious and digestive disturbances make their appearance. This condition persists in spite of extra feeding, and coughing is a common symptom. While numerous parasites infest the upper air passages and the alimentary tract of the pig, it is proposed to deal briefly with the subject by considering only those that are a source of serious economic loss. Undoubtedly the parasite causing the greatest loss is a round worm, *Ascaris suis*, which may be eight to ten inches in length, and whose normal habitat is the small intestine, though it is also commonly found in the stomach and bile ducts. Like most parasites, it is very dangerous to the young animal. While strongyle worms are a frequent cause of coughing in the pig, it is certain that this symptom is more commonly caused by the larvæ during their passage through the lungs, in which, again, they often set up parasitic pneumonia. *Trichuris suis* are commonly found in the intestines of the pig, but unless they are present in large numbers they cause little trouble.

In the treatment of intestinal parasites the difficulty is not so much in procuring the expulsion of the parasites, as in the impossibility of finding a satisfactory method of destroying the eggs. It is difficult to know what disinfectant to suggest, because it is believed that none of the coal-tar products, or other disinfectants, destroy the ascarid eggs: water at 80°C. will do so, and the Americans use lye (potash refuse). Owing to the high cost of santonin a number of other drugs were used, including various proprietary preparations. A series of experiments was carried out and it was finally decided that the best results were obtained from the use of oil of chenopodium; the administration of this drug was satisfactory both as a vermifuge and from an economic standpoint, and as a result of the work done a table of doses for use in the field was compiled, which is as follows:—

Age	*Dose*
8 weeks	20 minims
10 „	25 „
12 „	30 „
14 „	35 „
16 „	40 „
6 months	1 drachm
9 „	1½ drachms
12 „	2 „

It was first given in the form of a capsule, and either vomition occurred or the capsules were improperly administered, for a number of capsules were found later in the yards, so the method was discarded. The drug was next tried in the food—the pigs being fed individually—and again vomition was the trouble, coupled with the fact that a large number of animals refused to finish the food even after being fasted. The method now in use is to drench the animals, and it is carried out as follows: The animals are fasted for 24 hours and the drug given in a small dose of linseed oil—one to three tablespoonsful, according to the size of the animal treated. This is followed the next day by a dose of salts given in the food, and as the animals readily take the salts in the food, the contents of the bowels are satisfactorily emptied. Large numbers of parasites are passed, and in a fortnight the animals begin to make flesh rapidly, the skin is cleaner and the general condition much improved.

In the case of store pigs, the animal is held between the legs of an attendant, the head is pulled up by gripping the ears, a stick is placed in the mouth, and the dose administered with little trouble. Large animals are roped and pulled up to a beam.

The advantage of individual dosing cannot be questioned; each animal receives the correct dose, and although on the face of things it appears a laborious method, when I explain that, after a little practice, 50 stores can be dosed in an hour, it will readily be seen that the treatment is efficient, cheap, and anything but the Herculean task people would have us believe.

The method used for parasites of the respiratory tract is to administer ether meth. and ol. tereb. (ether 19 parts, ol. tereb. 1 part). An ordinary hypodermic syringe—minus the needle—is used, and 2 c.c. injected down each nostril.

TUBERCULOSIS

As time is getting short I propose to deal very briefly with this subject. It is believed that tuberculosis is most common in dairying districts and that the incidence is greater in the young rather than the adult pig. The lesions are most frequently found in the pharyngeal lymphatic glands, although they may be found in other parts of the body, including the vertebræ. These facts are common knowledge, and therefore I will go on to the application of the double intradermal test. The method of dosage is the same as in the cow, and the site is either at the base of the ear or the thin skin under the belly. The texture of the skin in the individual determines the site. At the time when I first used this test on swine little information could be obtained as to its accuracy, and following the results of the test applied to the first 50 animals, it was decided to slaughter ten as a check. The animals slaughtered included reactors and non-reactors. The results of the *post-mortem* examinations demonstrated the reliability of the test in so far as these animals were concerned, as only one animal

failed to confirm the test; this animal gave a definite reaction but the autopsy failed to reveal any tuberculous lesions. The herds tested by me were comparatively free from tuberculosis, and I suggest the following reasons for this:—

(1) Except in rare cases milk was not fed.

(2) The pigs were never put out on pasture grazed by cattle or used for poultry.

Discussion

Questions were afterwards invited, and the result was an interesting if informal discussion, the value of which was greatly enhanced by the readiness with which Mr. Beckett dealt with each question in turn instead of waiting and giving a general reply.

Mr. W. S. Wood opened the discussion by remarking that he should like to know the cause of the anæmia to which Mr. Beckett had referred. Mr. Beckett replied that he was afraid that he could not tell them the reason why the milk of the sow was deficient in blood-forming elements such as iron and copper; the literature published on the subject did not appear to give any satisfactory explanation. His own work being field work, he was, unfortunately, not in a position to carry out exhaustive experimental work himself. He did find, however, that on premises where necrotic enteritis existed, anæmia in sucking pigs was invariably present. Another question put by Mr. Wood was whether this disease was found to be more prevalent in clean styes than in dirty ones, and Mr. Beckett said he thought they would find that necrotic enteritis affected the pigs irrespective of the cleanliness or otherwise of the buildings. Mr. Wood said he asked this question because his own experience had been that the cleaner they kept the pigs the more disease they got. He knew this was contrary to reason, but he had a vague idea that possibly the ammonia or gases from the filth might act as a cure.

Mr. Beckett said he thought they would find, in a great number of herds accommodated in brick and concrete styes, that necrotic enteritis was infinitely more common than swine fever, and he thought that in these cases the management and diet were faulty. When sucking pigs were confined to concrete styes and not allowed to run out-of-doors the hæmoglobin content of the blood of the sucker was lowered owing to the deficiency in the sow's milk, and where anæmia was present in young pigs necrotic enteritis and other troubles soon followed.

Replying to another question by Mr. Wood, Mr. Beckett said that those of them who had to work in the field knew that there were many cases of necrotic enteritis which were mistaken for swine fever, for it was certain that ulceration might be due to causes other than swine fever.

The President (Mr. J. F. D. Tutt) enquired if Mr. Beckett did not consider that too much attention was directed to the presence or absence of ulceration, in arriving at a diagnosis, by those appointed by the Ministry to report on suspected outbreaks of swine fever? He had been advised, on more than one occasion, that although 90 per cent. of the symptoms of swine fever were present, as ulceration was absent the condition could not be reported as swine fever. Had Mr. Beckett noticed any deficiency of hæmoglobin in cases of anæmia in young pigs? He had been told that young cattle, when turned out on to poor pasturage, showed, on blood-testing, a deficiency ranging from 50 to 60 per cent., and that when they were treated with ferric oxide, and later, ferric sulphate, they rapidly improved in condition.

Mr. Beckett replied that it was necessary to view ulceration in its true perspective. It definitely was not diagnostic of swine fever, but, in the past, so much value had been placed on the presence or absence of that over-rated lesion that all other evidence had been discarded. He carried out a very great number of somewhat rough-and-ready blood-tests in the field, and they were sufficiently definite to show that an anæmic condition was present, probably due to iron deficiency. Ferric oxide had been fed to the sows, and whilst satisfactory results were achieved up to a point, the reduction in losses was disappointing. To obtain a satisfactory result in suckers a soluble iron salt must be fed individually, and in the case of anæmic pigs old enough to feed themselves, powders composed of ferric sulphate, copper sulphate and sulphur appeared to give good results.

Mr. W. F. Maynard thought they would never make any headway until they got back to the local practitioner.

Mr. Beckett said there was no doubt a tendency everywhere to place a whole-time man in every job, but one was justified in doubting the wisdom of their leaders in permitting those appointments to be made. While in certain cases it was not only wise but essential to appoint a whole-time official, the wholesale employment of such men was most certainly, in his opinion, a retrogressive step. The result, slow but none the less certain, would be that one would find an indifferent type of man going into general practice. Veterinarians whose work was largely administrative could not hope, or even be expected, to have that close association with the domestic animals which was absolutely essential if one was to be able to diagnose and treat with any prospect of success the ailments common to agricultural stock in general. It was, therefore, of paramount importance that their leaders should protect and encourage the work of the general practitioner.

The President said that it had been his constant experience that unless one could produce text-book illustrations of the ulceration, particularly around the ileo-cæcal valve, a case was rarely confirmed as swine fever. In one particular instance, the pigs kept dying, and in the end he persuaded the client, as an experiment, to inoculate about 50 and to mix them with those which were most badly affected. None of the 50 died, but the others which were not inoculated did. As a result, the whole herd of several hundred were inoculated and no further losses occurred.

Mr. Maynard observed that he had seen a good deal of tuberculosis of the throat in the pig, and one very often found it in the bronchial glands, but it seemed to stop there.

Mr. Beckett replied that while lesions might be found in other parts of the body, he agreed with Mr. Maynard that by far the most common site was the throat.

The President remarked that he was very frequently asked to inspect herds of cattle and to take milk samples following the seizure of carcasses of pigs found to be infected with tuberculosis. So rarely was infection traced to milk that he thought that poultry were a fruitful source of tuberculous infection in the pig and he would like to know if Mr. Beckett shared this view.

Mr. Beckett agreed that this was a very possible source of infection.

SOME POINTS OF INTEREST TO THE VETERINARIAN*

R. A. WILLETT, M.R.C.V.S.

Staines, Middlesex

The somewhat disjointed remarks which I am about to address to you are intended, not so much as a paper, but as a basis for discussion which I hope will follow. If I am successful in achieving this then I shall be satisfied.

FOUL OF THE FOOT IN CATTLE

The first disease I propose to mention is foul of the foot, or clit-ill, as it is known in the north. This is a suppurative condition of the foot between the claws of the hoof, due to the action primarily of *Bacillus necrosis*, and secondarily to that of organisms of a streptococcal nature. The origin of this infection is no doubt from the exterior, predisposing causes being rough pasturage, newly-made cart tracks particularly, and general unhygienic conditions in the byre and stockyard.

The symptoms are lameness accompanied by an acute inflammation of the foot. Few cases are seen at this stage as the farming community usually form their own diagnosis, rightly or wrongly. The more usual finding is a swollen foot with an abscess or sinus in the cleft between the toes. How far this extends depends upon the acuteness of the infection, and what steps the owner has already taken. It may only affect the skin and subcutaneous tissues, or may involve the ligaments and even the joint of the foot, in this case causing acute pain, accompanied by general symptoms of fever and septicæmia.

The abscess in the foot is usually surrounded by a marked inflammatory zone separating the necrotic centre from the healthy tissue. In cases where only the skin and subcutis are involved the condition yields readily to treatment, but where the necrosis has gone deeper and involved the ligament there is always considerable difficulty in obtaining proper drainage, with the result that the animal wastes rapidly, bed sores present troublesome sequelæ and often the result is the destruction of the animal. The treatment is based on the principle of obtaining as early separation of the necrotic centre as is possible. Personally I have always used antiphlogistine or some other cataplasm as the primary dressing. If the sequestrum is slow in parting, the animal should be thrown and surgical aid used to obtain proper drainage. In some chronic cases where there is a certain amount of profuse granulation the application of actual cautery brings about the desired result in a more effectual manner than any other form of treatment. In cases where the ligaments and joint are involved, the classical treatment appears to be to remove the affected digit. On the occasions where I have been forced through circumstances to attempt this method, I have invariably met with bad results. I feel that throughout the course of this ailment special attention is always necessary to see that the general hygiene and comfort of the patient is of the best. Special foods of a particularly nourishing nature are essential, and many cases end unsatisfactorily, not so much from the primary disease as from secondary conditions due to neglect of the general principles of nursing. This condition is often classed as a contagious disease, but in my opinion it is not a question of contagion at all, but of subjection to a common disease due to the same environment and exposure to the same conditions under which all the animals are kept.

It has been my experience that one is called in to treat such cases almost entirely in the autumn and winter. This leads me on to the question of pulmonary disease during this period of the year.

ACUTE BRONCHITIS IN THE DOG

For the last two months I have had a series of cases of acute bronchitis in the dog, particularly young dogs. These animals are brought in, by the owner, usually with a ready-made diagnosis of canine distemper. It is found that the patient has a varying degree of pyrexia, dryness of the nose and mouth, and a harsh cough, usually ending in a retch. The nasal discharge, when one sees it, is usually thick and yellow, and is accompanied by a slight discharge from the eyes. Appetite is variable; in fact, it has been my experience lately that the appetite is quite good. The bowels in the early stages are normal, but later relaxed, probably due to the mucus ingested. The membranes are usually injected, with a rather sunken eye, giving the animal a somewhat dejected appearance.

I believe that 90 per cent. of these cases are due to *B. bronchisepticus*, without any question of the infection of the virus of distemper. It is of interest to note that, on examination of my case-book, I find that of seven dogs admitted to a special ward during October and the first week in November, no fewer than five had, at some time previously, been vaccinated by the Laidlaw-Dunkin method of distemper immunisation. The prognosis in all cases is guarded, with a reasonable prospect of complete resolution.

The treatment is naturally symptomatic: febrifuges, such as quinine salicylate, together with injections of "omnadin" or some organic compound of a like nature, are useful in controlling the febrile symptoms, together with

* Address by the President of the Royal Counties Division, N.V.M.A., at a meeting held at the Conway Hall, Red Lion Square, W.C.1, on November 24th, 1933.

demulcent electuaries, expectorants and internal antiseptics.

Warm antiseptic and expectorant inhalations are of value in relieving the difficult breathing which is always met with during some phase of the condition.

There is one point which I would particularly like to stress and that is in connection with the nursing of the patient. In all cases where the dog has been admitted to hospital, he is at once fitted with a flannel jacket lined with a stimulant dressing to the chest, such as "thermogene." A good bed is provided, but no other artificial heat is supplied; throughout the day as much fresh air as possible is allowed, and I firmly believe that these principles are the most essential in the treatment of this condition. The differential diagnosis of this condition and canine distemper is both difficult and dangerous for the practitioner, who has to consider the question of infection of his hospital. In my opinion, there is a peculiar smell which is always present in distemper, and is noticeable to anybody who has had experience of this disease, and in most of these cases the vesicular eruption is present.

POSTERIOR PARALYSIS IN THE DOG

Another condition which has been seen with considerable frequency during the past six months is paralysis of the hind limbs of the dog. This, of course, is not uncommonly due to constipation or an auto-intoxication, as a sequel to distemper, or as the result of spinal concussion often seen following accidents, but in the cases I have in mind there is no history which is any help to one in coming to any conclusion as to the etiology. The symptoms appear somewhat slowly and it is usually several days before paralysis of the limbs is complete. Bowel action is then lost and there is usually retention of urine. The patient generally appears in good health, but is liable to a condition approaching frenzy if there is any excitement.

Although the appearance of the patient is somewhat alarming, my experience is that recovery, although rather slow, is usually certain.

One cannot too strongly stress the necessity for avoiding heroic forms of treatment. Personally I do not use anything in the early stages other than the infra-red ray, the apparatus for which was shown here two years ago. Twenty minutes' exposure is given daily for one week. Careful watching to avoid any over-distension of the bladder or bowel is essential, and small doses of salines are useful; in obstinate cases sea salt compresses have assisted, and "aricyl" injections on alternate days, for six days, have given good results. The question of the origin of this condition gives rise to the possibility of some invasion of the cerebro-spinal fluid by some organism. I believe I am correct in saying that something akin to this condition has been noticed in human medicine.

I hope that these remarks have proved of interest to you, and that the discussion which I trust will follow will prove of still greater interest and value.

Discussion

In the discussion which ensued, Major Hamilton Kirk said that Mr. Willett, in describing bronchitis, had given an absolutely typical picture of distemper. The cases might still be distemper even though the dogs had been inoculated, and he would surmise they were instances in which immunisation had failed. He did not yet regard immunisation as 100 per cent. effective, although undoubtedly of immense service.

If these attacks were due to secondary invaders, or in other words, were a *bronchisepticus* infection, would Mr. Willett advocate immunising simultaneously with a *bronchisepticus* vaccine?

Mr. Willett had stated that part of his treatment consisted of the application of "thermogene" wool, but he could not believe this would have any counter-irritant effect unless the hair was first removed and there was actual contact with the skin. Even mustard, rubbed on, had little effect unless long or woolly hair was clipped away.

Again, exposure to an infra-red ray lamp was open to the same objection, because these particular rays had very little penetrative power and were definitely cold rays. He (Major Kirk) conjectured that the lamp Mr. Willett had been using was a radiant heat lamp, giving a full measure of penetrating, warming, red rays.

The question of paraplegia was one of particular interest to him, for all through the year he was being called to see dogs which were suddenly unable to stand on their hind legs. In many cases he thought it was rheumatism. His general method had been to apply radiant heat or tell the owners to place the dogs before an electric fire, massage them, give them aspirin and a purgative; then a course of Easton's syrup. After a few days of this treatment they usually recovered the use of their legs. It was difficult to say what precisely caused the attacks.

Major G. W. Dunkin said that most of them would agree that a dog which had recovered from an attack of distemper was immune to further attacks. That dog might be placed in the midst of infection and it would remain unaffected. On the other hand, he had knowledge of a case which seemed to indicate that a dog which was immunised against the virus disease was also resistant to attacks by *B. bronchisepticus*. In the kennel which he had in mind there were hounds which could be, for purposes of description, divided into three classes: (1) old hounds which had presumably had the disease early on, had recovered and were now immune; (2) hounds which had been immunised by the vaccine-virus method and were also healthy; and (3) uninoculated puppies who were suffering from all the signs of clinical distemper. From batch (3) he was able to obtain not only the virus of distemper but also, in some of the more advanced cases, *B. bronchisepticus*.

From this evidence it would appear almost a certainty that the infection of *B. bronchisepticus*, in so far as artificially immunised dogs are concerned, was negligible. At the same time it could

not be said that dogs which were immunised against *B. bronchisepticus* were immune to distemper as we understood it, for had this method of immunisation been satisfactory during the many years it had been tried out, the "Field" Distemper Fund would have been unnecessary and need never have come into existence.

Mr. G. P. Male asked if immunisation against distemper immunised against the secondary invaders? Some experts had come to the conclusion that secondary invasions, if they were very virulent, might produce symptoms simulating distemper, although the dogs had been immunised or had had attacks of distemper. He did not agree with that. If a dog had had distemper or had been immunised correctly, his experience was that the immunity was potent against secondary invaders. Unfortunately, it appeared to be very difficult to gauge the exact balance between the vaccine and the virus and to get a permanent immunity. Last year, with three packs of hounds, their immunity broke down as the virus was not sufficiently strong. The conclusion was that if the animal was properly immunised the immunity would not break down. Personally he would call these secondary attacks distemper and treat them as such.

With regard to the case of paralysis, he would describe the condition as a cerebro-spinal pachymeningitis. Though there was no doubt the treatment given for rheumatism was sometimes very effective, he thought many cases were due to an auto-intoxication from the bowel. He found that it occurred chiefly in dogs with long backs—other breeds did not seem to be affected nearly so much.

Foul in the foot was the bugbear of country practice, and there was nothing more tedious to deal with. Very little had been written about it. One treatment he had found very successful was to get some tow and work it between the digits. The first pledget cleaned it and the second broke down the little soft pustules. With the friction of the tow the pustules were broken and the ointment rubbed in at the same time.

Lieut.-Colonel H. Greenfield said Mr. Willett appeared to discuss foul in the foot as if it were solely a problem of infection by *Bacillus necrosis*, while surely many of the cases coming under this head were not of this serious type and were often only injuries by foreign bodies.

Speaking of paralysis, he said he considered that the common sudden paraplegia was a bowel infection, and that it frequently yielded to treatment by mist. alba. in 48 hours, but that quoted by Mr. Willett appeared of a different kind with an advancing inco-ordination and paralysis. This latter was often associated with gastric distension, heart disturbance, bowel stasis and muscular or nervous pains and appeared due to a definite toxæmia.

He used "aricyl" or other arsenic preparations in the treatment of these cases and considered the free use of normal saline hypodermically or by the mouth of great value. In some cases it was good to start with an emetic.

It was well, however, said the speaker, to be guarded in one's prognosis of the second deferred type of paralysis, and he quoted two recent cases in his experience, where one, a spaniel, suddenly lame in one leg while running on a common one afternoon, was completely paralysed in both hind legs in four hours and died of ascending sclerosis of the spinal cord in a week, and an Alsatian with partial bowel stasis and complete paralysis of the bladder—had both proved on *post-mortem* to be due to fracture of the vertebræ and anchylosis of some long standing.

Mr. J. H. L Addis mentioned that in the cases of diseased bone in the foot of cattle he had frequently removed a digit with success. With reference to bronchitis in the dog, he enquired if Mr. Willett had ever used antiserum in the early stages.

The Reply

Mr. R. A. Willett, replying to the various points raised, said that in the matter of bronchitis he candidly would not attempt to diagnose the condition apart from distemper. He had an old house with 13 rooms where he could give one dog one room, and if any of the cases did turn out to be distemper the other animals would not be endangered. If these cases he had mentioned were not distemper it was reasonable to believe that there was a bronchial invasion probably of *Bac. bronchisepticus*. One of the reasons why he thought that these cases might not necessarily be distemper was that the period when the dog was definitely ill was very short. In his experience the dog with distemper was never very well until it was right on the road to recovery, but in the case of bronchitis the dogs were very lively, fed well and only appeared to be really suffering at the time which might be called the crisis.

He quite agreed that the infra-red ray was a cold ray. The method he adopted of exposing a dog was to seat it 2-ft. away and comb its hair the wrong way.

He had not used the serum as a curative method for bronchitis as he was not satisfied that it was caused by distemper, and when one had to add the cost of serum to the bill the owner was not generally very pleased.

H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses: London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

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Horsemastership, Equitation and Driving, Manual of, 1929: Amendments No. 2, January, 1934 (57-9999)	0	1	0	1½
Medical Research Council:—				
Special Report Series:				
191. Diet and the Teeth. An Experimental Study. Part. III. The Effect of Diet on Dental Structure and Disease in Man. December, 1933 (45-5-91)	5	0	5	4

N.V.M.A.
MOTOR INSURANCE SCHEME

A project to provide special insurance facilities for the benefit of members of the National Veterinary Medical Association of Great Britain and Ireland has been engaging the attention of the Finance and General Purposes Committee for some time past. The objects to be attained were, first, the provision of a special form of policy which would be ideally suited to the needs and conditions of the veterinary profession, and, particularly, which would overcome the restrictive conditions attaching to the average policy as regards the purposes for which the insured car can be used; secondly, to secure preferential rates of premium for members similar to those already provided by the insurance market for other professional and semi-professional bodies.

The form of policy finally decided upon and adopted by the Council at its meeting on January 2nd last for official recommendation to members incorporates all the benefits commonly provided by the average motor car insurance policy as issued by the leading insurance offices. In addition, it possesses the following outstanding features and advantages:—

(1) The rates of premium are 20 per cent. to 25 per cent. below the normal schedule rates of the leading insurance offices for "Class 1" policies.

(2) Actually, however, a "Class 2" policy, for which the average office charges an extra of 25 per cent., is issued, thus allowing the car to be driven or used by any person in addition to the insured for business and professional purposes as well as for the social, domestic and private purposes of the insured or such other person.

(3) In the case of a car owned and insured by an assistant or owned and insured by a partner in a firm, the employer or the partner/s are fully indemnified in respect of all such liability as may attach to them arising out of the use of the car for their business or professional purposes, this being a very serious risk incurred by employers and partnerships which is completely unprovided for by the average motor car policy.

(4) Surgical instruments, drugs and the like conveyed in the insured car are covered against Fire, Theft and Accidental Damage.

(5) Other important benefits not commonly included in the ordinary comprehensive car policy are: (*a*) Manslaughter Indemnity; (*b*) Agreed Value Clause; (*c*) Fire Damage to Garage up to £100; and (*d*) Rugs, Coats and Luggage covered without extra premium.

Another special feature is that for a small extra premium, accidental Death of or Injury to Animals conveyed in the car can be insured.

A progressive scale of No Claim Bonus is allowed, commencing at 15 per cent. and rising subsequently to 25 per cent. Risks transferred will be allowed the full rate of bonus to which they are entitled under existing policies, up to a maximum of 20 per cent.

A definite percentage of all underwriting profit derived from the issue of these policies will be paid to the Association for allocation amongst Veterinary Benevolent Funds.

The policy is available for issue only to members of the N.V.M.A. and the special indemnities granted to employers and partners can be claimed by such persons only provided they themselves are members of the N.V.M.A.

A copy of the Prospectus has been posted to each registered member of the Association, and further copies are immediately available on application to the Secretary or to the Insurance Managers, S. H. Cannon and Co., Ltd., Incorporated Insurance Brokers, 3, Bucklersbury, London, E.C.4.

THE DISQUALIFIED GALLOWAYS

The Council of the Smithfield Club considered in London, on Wednesday of last week, questions connected with Gold Flake and Mike the Fifth, the two Galloway steers which were awarded championship honours at the Smithfield Show in December and were afterwards disqualified. At the close of the meeting Mr. Leonard Bull, Secretary of the club, said that no statement whatever was to be issued regarding the meeting. Sir Leonard Brassey, President of the club, was in the chair, and Mr. James Craig, of Holmston, Ayr, the owner of the two steers, attended while the disqualifications were under discussion.

* * * * *

BOVINE TUBERCULOSIS: PROPOSED SCHEME OF ERADICATION

The Earl of Stradbroke, President of the Royal Agricultural Society, presided at a conference on February 7th of representatives from 17 cattle breed societies and four of the principal agricultural show societies, with the society's Veterinary Committee, to discuss the question of the eradication of tuberculosis from pedigree herds.

The conference decided to urge the institution of a scheme for the eradication of bovine tuberculosis, and elected a committee to consider the question.

The committee consists of two members of the Royal Agricultural Society's Veterinary Committee and representatives of the principal cattle breeding societies.

* * * * *

TRANSPORT ADVISORY COUNCIL

The Minister of Transport has now completed his consultations in connection with the appointment of members of the Transport Advisory Council to be established under the Road and Rail Traffic Act, 1933, and has appointed members of the council to serve for a period of three years. The Chairman will be Lord Goschen, and amongst the various interests represented will be the users of horses and horse-drawn vehicles, whose views will have the powerful advocacy of Mr. Cecil G. Argles.

The Veterinary Record

February 17th, 1934.

PROGRESS THROUGH LOYALTY

AFTER much mature consideration and taking into account the vital interests of the community as a whole and the expense and time required to train a man as a veterinary surgeon, the N.V.M.A., in 1930, adopted a scale of minimum salaries for various public veterinary appointments. These salaries have been fixed at their present level mainly with the object of ensuring that veterinary surgeons of sufficient experience to carry out the work required shall be attracted by the posts so that these services shall be run with the maximum benefit to the public welfare. The adoption of this enlightened policy by the Association has led to the refusal by this journal, from time to time, of certain advertisements offered to it by public bodies. Frequently the Association's representations have resulted in the salaries offered being raised to the required minimum, but, at times, the Association has been compelled to advise its members not to apply for the posts. As a general rule the profession, realising the importance of action in keeping with its motto, has rigidly supported the "National." It is hardly necessary to remind our readers of the various forces, by no means puny, arraigned against us from without, forces separately concerned not only with public health and with research but also with the work of the practitioner. To combat these alone, requires a strong Association including every member of the profession. But when we realise further that our small profession even within itself has recently been full of strife and disagreement we are tempted to sigh and admit to our friends in other walks of life that all has not been well within our own ranks. Happily, however, the signs of internal discontent are dwindling and it is becoming more and more evident to all veterinarians, no matter whether they be engaged in practice, in public health work or be members of the staff of teaching or research institutes, that although different points of view are bound to exist and indeed are essential to a virile profession, yet some effective compromise can usually be reached representing that policy best suited to the progress of our science and profession. Even the much criticised Veterinary Adviser must be included, for it should be realised that, as things are at present, the majority of such Advisers work amicably with their local colleagues. The evils, such as they are, are more inherent in the system than in the man and it behoves us, as a profession, to work together, practitioner and adviser, to bring about that alteration in the system that will lead to the greatest common good. Recently veterinary officers of local authorities and the practitioners have welded their different points of view into a common policy. It is to be hoped that this strengthening process will continue. It is well that separate interests in the profession should be strongly represented provided that they anabolise into an efficient virile whole, but the formation of separate bodies solely to safeguard narrow professional interests is only to be deprecated. The veterinary practitioners, the veterinary public health officers of Scotland and veterinary research workers have each their own sub-division of the "National," whilst the veterinary officers of England and Wales have their own association. This latter body has already made evident its friendly and cordial feelings towards the "National," but we would suggest that naught but greater mutual good could result from a still closer partnership.

Nobody will deny that the prestige of the profession has very considerably advanced since the inception of the N.V.M.A. But not only has our prestige advanced but our efficiency has increased with the consequent greater responsibilities and extending labours. These facts are perhaps more evident to our older than to our younger members; indeed, it is largely due to the untiring and unselfish efforts of the former that such progress has been made. Nevertheless, continued progress must depend upon the profession's youth. It is for this reason in particular that we regret the number of younger men that still remain outside the N.V.M.A. We feel sure that if they would pause to think how the Association has helped to improve their lot during the last generation they would realise how necessary their support is to the maintenance of these improved conditions. It will be admitted that those who are benefiting most from the labours of the Association are our young men, who are now able to begin their professional careers at salaries well above those that their pre-war colleagues were forced to accept. If, however, young men apply for posts where the salary offered is less than the minimum recommended by the N.V.M.A., then the conditions of veterinary officers are bound to worsen and the improvements so dearly bought in the past will rapidly disappear. The profession must stand solid in the matter of appointments, as in all other matters affecting its welfare. We are far too small to live disunited but fortunately sufficiently small to enable unity of action to be truly effective. Let us then ensure Unity.

ANÆSTHESIA AND NARCOSIS IN ANIMAL SURGERY

In last week's issue was published an extensive annotation on the new German legislation prescribing measures to be taken for the relief of pain in animals subjected to surgical operations. The German Government is to be congratulated not only for the initiative it has shown in this matter, but also for the comprehensive and rational way in which it has tackled the problem, and the soundness of its conclusions.

Twentieth century civilisation has attained many things, not the least of which is a high sense of humanitarianism for the protection of the helpless, particularly children and animals, from pain and suffering. We, as Britishers, have always prided ourselves on our regard for the well-being of animals, and we have always been to the fore in matters of animal welfare.

There is no branch of science or art upon which humanitarianism lays greater obligations than our own. By the very nature of our work we are in constant contact with suffering amongst animals, and there is no one who understands how that suffering may be reduced better than veterinary surgeons.

Our German colleagues, in advising their Government on the practical aspect of the subject, wisely point out that the elimination of suffering associated with animal surgery, depends, not only upon effective narcosis, but also upon skilful technique, especially with respect to asepsis and rational wound treatment. We would tender our hearty support of this view. It can be truly stated that the humanitarianism of an operator is directly proportional to his skill and efficiency. An untrained bungler, whether engaged in the treatment of men or animals, however keen his sense of kindness, does, by his very inefficiency, cause unnecessary pain.

The German legislators lay emphasis upon the need for research into the subject of pain as experienced by the various animals. It is a subject upon which little is known, and most of our standards are based on comparative inference from experience of human beings. The matter is not one that can be assessed by the zealous, but often inexperienced, representatives of animal welfare bodies. This point appears to have been considered, for one finds that it is laid down that stock owners must be safeguarded against any excess of zeal that may become manifest in the movement for the protection of animals, and from unrest.

Knowledge in the use of anæsthetics and narcotics, both local and general, has made enormous strides during recent years, and veterinary clinicians have been quick to adapt new discoveries to use in animal practice. Perusal of the pages of this journal for the last few years shows that the subject has very frequently been the matter of discussion at meetings of Divisions of the "National." This, together with advances made in operative technique, has placed veterinary surgery on a high plane.

It may be feared by the agriculturalist that he is liable to suffer greater loss by death consequent upon an obligatory use of narcotics in farm animal surgery, and in this respect it is our duty to point out that such an increased risk does exist. A state of general anæsthesia is the border-line between life and death, and despite the utmost care and skill in administration, there will be uncontrollable deaths from this source, as is the regrettable case in human surgery.

In Germany this point has been borne in mind, for it is stated that the method used must be harmless and not incur a risk of loss through death. As regards general anæsthesia, such a happy state of affairs does not exist, and it is notable that the veterinary advisers recommend narcosis only, reinforcing it, where possible, by regional and local anæsthesia. Chloral hydrate is their narcotic of choice for farm animals. In this country practitioners prefer full anæsthesia with chloroform for operations such as castration of the horse.

It may be claimed that in this country animals are adequately protected by the Animals' Anæsthetics Act. A glance at it will reveal a number of striking anomalies. The subject of castration of the horse and other farm animals, which is rightly considered by the Germans to be a most important matter, receives no attention. It is very sad to think that misguided pressure was successfully exercised by agricultural and other interests to secure the omission of this and other operations from the original Bill as drafted by the promoters. If these concessions had not been made the Bill as a whole was threatened. It is not our intention to discuss the Act here, other than to state that it is in urgent need of thorough and rational revision.

In conclusion, we would encourage the clinical staffs of our colleges to continue the work on the subject of anæsthetics and narcotics which we know they are at present carrying out, and to popularise it amongst practitioners by the early publication of their results, and possibly by the institution of post-graduate courses of practical instruction.

THE BLACK RAT IN LONDON

The Ministry of Agriculture is inquiring into the prevalence of the black rat in London. Statements which have appeared in the Press in recent months suggest that this species of rat may be growing in numbers. In order to learn whether the suggestion has any foundation, the Ministry has addressed a circular letter to the corporations of the City and of Westminster and to a number of metropolitan borough councils in central London.

Clinical Reports

CONCLUSION OF AN INTERESTING CASE OF RUPTURED DIAPHRAGM IN THE DOG

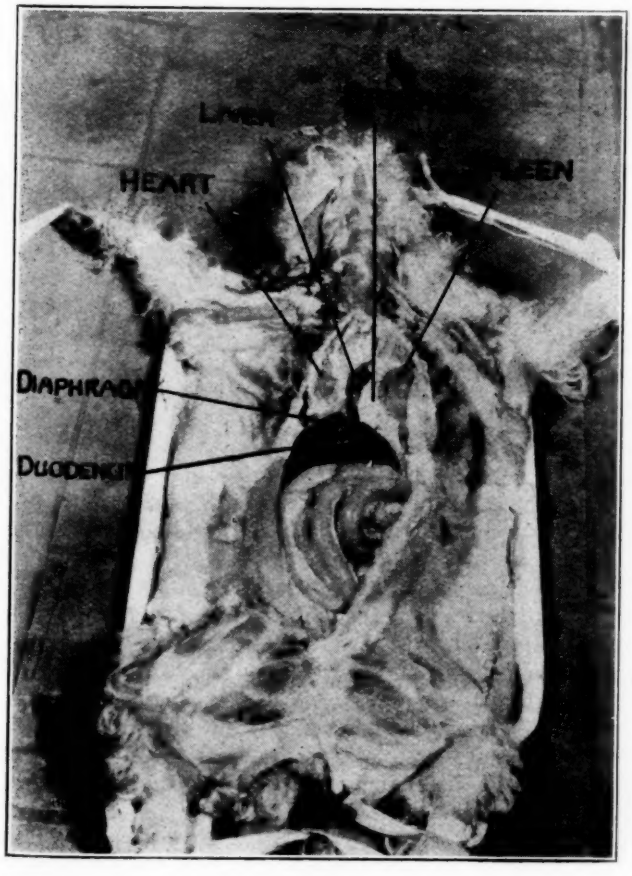
PROFESSOR G. H. WOOLDRIDGE, F.R.C.V.S., M.R.I.A., and J. W. H. HOLMES, M.R.C.V.S, D.V.S.M.

In *The Veterinary Record* of December 30th, 1933, page 1416, we published an account, accompanied by radiographs, of an interesting case of ruptured diaphragm in a fox-terrier bitch. The patient has since died, and it is now possible to give the final details regarding this case.

The only history, concerning the death, with which the owner was able to furnish us, was that at about 10 a.m. on January 24th the animal suddenly became ill, showing violent attempts to vomit, but without succeeding in accomplishing this. These symptoms after a short time abated, but only to be followed by a recurrence at 2 p.m., when at the end of one of the spasms she quickly collapsed and died.

A *post-mortem* was carried out on the next day, the following being revealed:—

The carcass was in good condition, and apart from a suture abscess at the operation site in left inguinal region no external abnormalities were noted (at the time she sustained her injury she had a ventral hernia). After removing the sternum the condition shown in the accompanying photograph was revealed.



Closer examination showed the spleen, stomach (which was tympanitic), the first three inches of the duodenum and a large portion of liver to be residing in the left side of the thorax, causing the heart to be pushed over to the right side against the chest wall, and also resulting in almost complete collapse of the left lung. Portions of the latter sunk on being placed in water. The liver was an anatomical anomaly, comprising six large lobes and a small lobe, with a deep fissure. Of these, four of the large lobes with the gall bladder and the small lobe, were in the chest, only two large lobes remaining posterior to the diaphragm.

The rupture in the diaphragm involved the whole of the left side from a point approximately half-an-inch away from the œsophageal opening. The œsophagus was normally situated and passed through the foramen to join the stomach. The œsophageal end of the stomach was thus held back and prevented from pressing into the thorax, but the fundus and pylorus, with several inches of duodenum, had gone into the chest. There were no adhesions with any of the organs, and the torn edges were perfectly healed and covered with serous membrane.

No other pathological changes were found, and it would appear that death was brought about by pressure on the heart and (or) lungs from distension of the stomach. The amazing thing is that the patient lived for so long, a period of four months, and showed so little distress during life.

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PYLORIC OBSTRUCTION IN AN AIREDALE

W. A. S. STEVENS, M.R C.V.S.
Southsea

At the end of January an Airedale dog, about two years old, was brought to me with the history that directly he took any food he vomited.

Examination revealed no definite cause, and I administered the usual gastric sedatives, which were all returned within five seconds. I next gave an injection of morphia, which I have often found of use in acute gastric irritation of indefinite nature. Twenty-four hours later I allowed the patient a little white of egg, which was immediately vomited.

I now decided to have an X-ray photograph taken, and this revealed what looked like (and later proved to be) a metal washer lodged in the pylorus. The washer had a diameter of about half-an-inch. I immediately gave an injection of 1/50 gr. of atropine and repeated the dose twelve hours later; that was at 12 p.m.

The following morning I again allowed the patient to take the white of an egg, which was

(*Continued at foot of column* 1, *page* 192.)

Abstracts

[The Excretion of Sex Hormones in the Blood and Urine of Pregnant Sows. (Trans. title.) Küst and Struck, M. (1934.) *Deuts. tierärztl. Wschr.*, *42*, 54-56, 3 tables.]

The researches reported in a number of papers recently by Professor Küst and his colleagues from the Veterinary Obstetric Clinic of the University of Giessen in Germany show that the excretion of the two sex hormones, namely, the anterior lobe pituitary hormone (prolan) and the ovarian hormone (folliculin), that may be found in the blood or urine of animals during pregnancy, varies greatly in the different domestic animals as regards the onset and duration of the excretion and the concentration of the hormones that may be detected. In the urine of bitches neither anterior lobe hormone nor ovarian hormone can be demonstrated. In the urine of cows, from the twenty-third week of pregnancy onwards, a striking increase in the excretion of ovarian hormone can be shown, but no anterior lobe hormone can be found. In pregnant mares, from the seventh week onwards, the concentration of ovarian hormone excreted becomes so large that a diagnosis of pregnancy can be established with the greatest certainty by examination for its presence; whereas anterior lobe hormone can only be found in low concentration and at irregular intervals.

In the sow it was found that between the twenty-third and thirtieth days of pregnancy there was a transitory excretion of a fairly high concentration of ovarian hormone in the urine. Subsequently, from the fifth to the eleventh weeks, none could be detected. Then, during the eleventh week the concentration of this hormone steadily increased until more than 4,000 mouse-units could be detected in the urine before parturition. Very rapidly after parturition, or even on the actual day of this event, the hormone disappeared from the urine. Later, in about two out of every three cases, some could be detected for a short time about the fourteenth day after parturition. None could be found in the blood serum of pregnant sows. No anterior lobe hormone could be detected in the urine or blood serum.

These results show that the examination of the urine of sows for the presence of sex hormones is not likely to be an economically useful measure for the diagnosis of pregnancy in these animals. J. T. E.

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[Acute Enteritis in Young Pigs Due to Infection with Colon Group. McBryde, C. N. *Jl. A.V.M.A.*, N.S. *37*, 1. Pp. 36-50. Fig. 1, Tables 5, Refs. 6.]

The investigations reported in this paper were undertaken early in 1933 in consequence of heavy losses in pigs from two to five days old, sustained during the preceding year on a ranch in Southern California on which 80,000 pigs are farrowed annually. The losses ranged from 30 to 60 per cent. of the entire ranch and in one of the brooder units ran as high as 70 to 80 per cent. for several weeks. Prior to this investigation the ranch veterinarian had attempted, without success, to deal with the trouble on the assumption that the cause was a nutritional defect or mineral deficiency.

The clinical symptoms of the disease were weakness, listlessness, emaciation, roughened hair, wrinkled skin and, in 50 per cent. of the cases, scour. In the typical cases, the disease presented the characteristics of an acute and rapidly invading infection, developing shortly after birth. A number of pigs in a litter were apt to be affected and sometimes entire litters succumbed. Healthy litters and badly affected litters frequently were observed in adjoining farrowing-pens, indicating that the infection was not of a contagious nature. *Post-mortem* revealed a severe enteritis, with no noteworthy lesions in the internal organs. In some cases the greater portion of the small intestine was involved, but more often a section of from one to three feet was affected. A feature was the crinkled appearance of the intestinal wall, indicating gas formation within the coats.

Pigs were selected for bacterial examination which presented typical clinical symptoms of the disease, and a study of the tables (which include autopsy findings) reveals an extensive and striking invasion by *Bacillus coli* in each of the four groups into which they were divided according to a classification that had been adopted by the ranch veterinarian in recording *post-mortem* examinations. The organism was recovered quite consistently in cultures taken from the mesenteric glands, kidney, spleen and heart-blood, indicating that *B. coli* had not only invaded the small intestine but the body as well. From bacteriological and histological

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retained. A little milk was allowed at intervals of two hours, and on the succeeding days the normal diet was gradually reintroduced.

On the third day after the atropine was given the washer was passed *per rectum* without trouble.

My inference is that the washer set up irritation in the pylorus, causing obstruction of that organ.

Concerning the recent correspondence on the subject in your columns, I do not venture an opinion as to whether pyloric stenosis is common or rare, because, having had comparatively little experience, I do not feel qualified to do so. I may say, however, that I have never diagnosed a case other than the one described.

studies—the latter revealing extensive invasion and necrosis of the mucosa, with hæmorrhagic œdema and gas bubbles in the submucosa—it appeared that the disease was the result of invasion by *B. coli*, which had assumed pathogenic and invasive properties.

In addition to *B. coli*, a Gram-positive coccus was isolated in a few instances and an occasional streptococcus, but these organisms were not encountered often enough to be of any pathological significance.

Brucellosis had been considered from the first as a possible factor, and agglutination tests indicated widespread prevalence. It was therefore believed that Brucella infection was a primary factor in the production of weak pigs with lowered resistance, which were thus susceptible to invasion by *B. coli*.

W. B.

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[**The *BACILLUS PYOGENES* of Grips, the cause of Enzoötic Mastoiditis and Abscesses of the Brain in Pigs.** (Trans. title.) Baloset, L., Cordier, G., and Menager, J. *Bull. de l'Acad. Vét. de France*, *6*, 8, 352-355.]

The symptoms shown by affected pigs are always more or less the same, adults as well as young pigs being affected. At the commencement the pig isolates itself, feeds poorly and begins to lose flesh and at times turns and leans its head to one side. This attitude becomes permanent and locomotor troubles follow: the animal goes round in circles—to the same side that its head is turned, though its snout and lips are retracted to the opposite side—and it frequently grinds its teeth. Fits may occur and increase in severity and frequency, the animal always falling on the same side. Finally, the pig is unable to get up or feed and dies thus or in a fit. The symptoms last six to seven weeks and no affected pigs have been known to recover.

On *post-mortem* examination an abscess is always found in the same place—the middle cerebellar peduncle. These abscesses are of a greyish-green caseous nature, varying in size from that of a pea to that of a nut. Smears and cultures showed the presence of the *Bacillus pyogenes* of Grips, sometimes in pure culture and sometimes associated with streptococci. The seat of the abscess explained the symptoms; the inco-ordination of movements being due to the cerebellar lesions and the other symptoms to compression of the roots of the nerves arising there—the fifth cranial nerve (trigeminal—contraction of maxillæ), the sixth cranial nerve (external oculo-motor), seventh cranial nerve (facial—deviation of the snout) and eighth cranial nerve (auditory). The examination of two carcasses suggested the origin of the infection, as in one pig there was a little pus at the common emergence of the auditory and facial nerves. In the second carcass there was a similar lesion and the mastoid cells also contained pus. It is suggested that infection may occur *via* the Eustachian tube and the sheath of the facial nerve to the internal auditory meatus and thus to the cerebellar peduncles. The organism has been found in the tonsils of healthy swine. The writers seek the reason why a number of pigs should become infected at a time and mention that in epidemics of human influenza localisation of lesions in the ear and mastoid cells may be common.

J. S.

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[**Cysticercosis and Trichinosis.** (Trans. title.) Meijer, W. C. P. (1933). 62nd Annual Veterinary Report. *Ned.-Ind. Bladen v. Diergeneesk. en Dierenteell*, *45*, 3, 165-175.]

Meijer presents an earlier report on the subject of cysticercosis and a statistical report for 1932, and remarks on trichinosis in pigs, dogs, rats and man.

Of 11,398 adult pigs slaughtered, 4,399 were examined and 108 found positive. The percentage of positives is markedly higher in sows than in boars and castrates on account of the fact that sows are slaughtered at a later age than the others. This soon became generally known and sows were slaughtered at abattoirs where no inspection for trichinæ is carried out, thus frustrating the purpose of inspection.

Of 2,413 dogs inspected 37 were infected. In order to combat this infection refuse, especially from bazaars, which contains meat should be properly destroyed. Of 721 rats examined none were infected. The rat is not considered to be an important carrier of the infection. No human cases were reported in 1932. This is ascribed to the fact that practically no raw meat is eaten by the population. *Tænia solium* is frequent, however, and sufficient opportunity therefore exists for the ingestion of an occasional cysticercus, but a large number of trichinæ are required to produce disease. The author advocates further inspection for trichinæ, but infected carcasses should not be destroyed; a method of treatment for such carcasses should be found and this would benefit the campaign against the parasite.

H. M.

(*Contributed by the Imperial Bureau of Agricultural Parasitology.*)

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[**Tuberculous Bacillæmia.** Wilson, G. S. With Appendices and Notes by Schwabacher, Herta., Okell, C. C., and Wood, E. A. (1933.) Medical Research Council, Special Report Series No. 182. Pp. 145. London: H.M. Stationery Office. 2s. 6d. net.]

In this report the available records concerning the existence of tuberculous bacillæmia have been collated and subjected to a critical examination with particular attention to the work of Löwenstein and his disciples.

It is pointed out that on account of a lack of precise experimental evidence, it is not easy to assess Löwenstein's investigations at their true value, but it appears from the available figures that he claims to have isolated tubercle bacilli from the blood stream during life of about 40 per cent. of patients with pulmonary tuberculosis in all stages, and from a higher percentage in the more advanced types of the disease. Even more striking, however, is his assertion that tubercle bacilli can be obtained in culture in 67 per cent. of cases of articular rheumatism and in about 50 per cent. of patients with certain diseases of the nervous system. The results of other workers who have attempted to confirm these findings have been most conflicting. Some have obtained positive results in relatively mild cases of tuberculosis, whilst others have examined blood samples from patients with advanced lesions without obtaining a single positive result; moreover, the results of simultaneous examination of blood by cultural methods and by guinea-pig inoculation by various workers are in almost complete disagreement with Löwenstein's cultural findings.

The report attempts to offer some explanation of these discrepancies by emphasising certain sources of error in investigations of this nature. The conclusions of workers who have endeavoured to demonstrate tubercle bacilli in the blood by microscopical examination are reviewed and it is suggested that there are many grounds for doubting the exactness of their technique. It is pointed out that confusion may arise either from various artefacts or through extraneous contamination with different saprophytic acid-fast bacilli. With regard to animal inoculations, surprising discrepancies are revealed by different workers, which are undoubtedly attributable to the diagnosis of inoculation tuberculosis on totally inadequate grounds.

No suggestion is made that Löwenstein has not cultivated genuine tubercle bacilli from the blood of human patients. Nevertheless, in view of the fallacies which may operate in macroscopic and microscopic positive results, it is contended that the criteria which he has used for the identification of his strains are quite insufficient to justify all his conclusions. In an Addendum to this section of the report, suggestions are made regarding the precautions which should be taken to ensure that acid-fast organisms obtained in investigations of this nature are authentic tubercle bacilli.

The theoretical portion of the report is supplemented by two appendices by Herta Schwabacher describing her attempts to obtain cultures of tubercle bacilli by Löwenstein's technique from 282 tuberculous and 122 non-tuberculous patients. The results showed three macroscopic cultures of a human type from cases of severe pulmonary tuberculosis, one culture from the heart blood at *post-mortem* of a case of tuberculous meningitis, two microscopic positive cultures which were believed to have arisen from the tap water from which the smears were made and seven macroscopic cultures of chromogenic saprophytic acid-fast bacilli from various cases.

In supplementary notes by C. C. Okell and E. A. Wood, it is stated that an examination of the blood from a series of cases failed to reveal any evidence of tuberculous bacillæmia.

R. L.

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[Congenital Tuberculosis of Calves. Dahmen, H., and Bohmer, G. (1933.) *Tierärzliche Rundschau, 29,* 39.]

A slaughterhouse examination was made of 300 fœtuses from cows affected with tuberculosis. Nine of these were found to be infected. In two instances the uterus contained a considerable quantity of light brown exudate, in which *M. tuberculosis* was detected in large numbers. In one case the fœtus was mummified and in the remaining six there were no marked abnormalities. The authors also made a *post-mortem* examination on 100 tuberculous calves and as a result arrived at the conclusion that congenital tuberculosis must be far more prevalent than is generally believed.

N. S. B.

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[Metabolic Disturbances in Cattle. Sjollema, B. *Acta vet. Neerland, 1,* 2.]

(*Continued from No.* 2, *p.* 41.)

On Tetany in General.—This is a review of the literature from human clinical and experimental sources. It should be read in the original by those working in this field.

The Causes of Grass Tetany. (*a*) *Introduction.*—As grass tetany is common in Holland, the author has had access to much material for research. Research on the following points has been performed: (1) Analysis of grasses with experiments on cattle to test the effect of large quantities of nitrate and protein on them; (2) Analysis of bovine blood at the end of the stall-feeding period and during the summer months; (3) Observing the effect on cattle of sudden changes in diet; (4) Mineral content of of hay from grass tetany farms and composition of concentrates used in Holland; (5) Inquiry as to whether rich young grass contains some particularly injurious substance and (6) Inquiry as to whether the problem is approachable on a basis of allergy.

(*b*) *The Composition of Grass from Grass Tetany Pastures and its Suitability for Feeding Milch Cows in Summer and Winter.*—In 1930 a very wide collection of such grass was made—some 400 samples being secured—and a ques-

tionnaire covering all possible points of significance in grass tetany was sent to farmers who had had losses.

The grass was analysed for raw protein, pure protein, Ca, P, Mg, K, Na, Cl and S. Raw protein varied from 20 to 25 per cent. of the dry matter, but this factor could not account for the disease as a rule. Some samples were found deficient in protein. Young grass was frequently found to have a large potassium nitrate content (2 per cent. of dry matter), but such was by no means the rule on grass tetany farms. Fresh spring grass contained from 0·6 to 0·35 per cent. of Ca, and autumn grass from 0·44 to 0·3 per cent.: these figures are rather low for good grass. P was found adequate in spring grass (0·43 per cent.) and was found to fall as the summer advanced, and may have become insufficient for nutritive requirements. Hay from grass tetany farms contained about 0·25 per cent. P and 0·55 per cent. Ca. The Ca, P and Mg contents of certain grain and meal concentrates were estimated and the results are given in a table (p. 72). The average Mg content of the grass samples was 0·15 per cent. It was considered that this was sufficient. The K content was high (0·4 to 0·5 per cent.), and about four times the amount required for health. A wide K/Ca ratio with much K and little Ca is considered important in the causation of tetany by many research workers. The Na content averaged about 0·15 per cent. The K/Na ratio of Dutch grasses was found higher than that of grasses in other countries, varying between > 20 and 50 (ratio in good grass in England 14·5). The Cl content varied between 0·5 and 1·8 per cent. and the S content between 0·2 and 0·5 per cent. The author discusses these findings in detail.

This work on grass analysis opened up further lines of *ad hoc* research, which have been indicated under the heading of the preceding section.

(*c*) *The Action of Nitrate on Cattle.*—A yearling beast was given 60 grams of KNO_3 daily for 116 days (=over 7 kg.) but it showed no ill-effects. It was later given about 200 g. KNO_3 by way of a fistula in the rumen and showed a great increase in the rate and force of the heart beat, distressed breathing and digestive unrest: its blood showed a 20 per cent. drop in Ca, inorganic P and Mg. No tetany appeared in this animal.

(*d*) *The Effect of Excessive Protein Intake on Cattle.*—Experiments were performed on two beasts with fistula of the rumen, wheat gluten and earth nut meal being given. The latter caused a disturbance in health even when given in an amount less than would have been contained in rich grass, but no tetany was observed. There was a fall in blood Ca (to 11-8-6 mg. per cent.). Wheat gluten had no effect in the first experiment (13·5 kg. fed over three days), but caused death eight hours after the last dose of a second experiment (24 kg. fed over three days). Tetany followed by paresis occurred before death. Soya bean was also used, but only caused transient disturbance (24 kg. over three days).

(*e*) *The Occurrence of a "Labile Condition" in Milch Cows at the End of the Stall Period.*—The author, by analysing the blood of many cows before being let out to summer pasture and afterwards, found a lower blood Ca at the former period (0·5 mg. per cent.); he accepts this as slight evidence of an increased liability to metabolic disorder at the end of the winter period.

(*f*) *The Influence of the Mineral Composition of the Food, particularly the Ca/P and K/Na Ratios, on the Neuro-muscular Irritability and on the Composition of the Blood Serum and Muscle Fluid.*—By the use of suitable electrical apparatus, the author determined the variations in neuro-muscular irritability of a number of rabbits fed on diets containing a varied mineral content. The results appeared to indicate a connection between the two factors.

(*g*) *Does Protein-free Grass Extract contain other Harmful Substances, apart from Nitrate, able to cause equilibrial disturbances?*—Experiments based on principles of allergy and immunity failed to show the presence in grass extract of any sensitising substance. J. E.

(*To be concluded.*)

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[The Most Practical Methods of Combating Parasitic Gastritis and Fluke Infestation of Ruminants under Field Conditions in India. Bhalerao, G. D. (1933.) *Agric. and Livestock in India, 3,* 4, 354-360.]

In India the chief helminth problems of farm stock are due to *Mecistocirrus digitatus* and *Hæmonchus contortus.* The preventive measures suggested by Bhalerao include the drainage of wet boggy land, frequent change of stock to fresh pastures, fallowing of pastures for twelve months, rotation of ruminants and equines on the same ground, exclusion of stock from manure heaps, removal of infected stock to stables or dry yards free from vegetation, good and abundant diet, a clean water supply, segregation of young animals, use of ensilage crops, and employment in India of extra men to handpick from the pastures droppings which could then be used dry as fuel. In addition, anthelmintics should be used. Of these copper sulphate is the cheapest and most effective. In India fluke is spread by *Lymnæa acuminata* and the preventive measures advocated include land drainage, use on the pastures of salt, slaked lime, iron sulphate or copper sulphate. The last is the most effective and can be used diluted, *viz.*, 30 lbs. of $CuSO_4$ mixed with 120 lbs. of sand per acre.

(*Continued at foot of column* 1, *page* 196.)

Annotation

Artificial Insemination in Farm Animals.

Whilst artificial insemination as a means of combating sterility has, for many years, been advocated in this country and on the Continent, it is in Russia that the procedure has received most attention. In that country, as the result of the brilliant pioneer work of the late Professor Ivanov, the practice now assumes a most important part in farm animal breeding, with the result that the depleted stock has become restored and improved. (The last report of work received in this country from Professor Ivanov appeared in *The Veterinary Record*, January, 1930.)

A booklet has recently been published by the Imperial Bureau of Animal Genetics, into which the contents of recent literature on the subject have been condensed. In an introductory chapter, by Arthur Walton, PH.D., of the School of Agriculture, Cambridge, the physiology of artificial insemination is discussed. It also includes reference to the work of Hammond and others into methods of preserving spermatozoa outside the body, whereby their fertilising capacity could be maintained. The remainder of the booklet deals with the technique of the practice and comprises data obtained from recent Russian publications. Recent work has been directed, firstly, at improving the methods by which the semen is collected, and secondly, the preparation of fluid media with which the semen could be effectively diluted.

The original method of collecting semen was by the introduction into the vagina, prior to coitus, of a sponge. This method had a number of disadvantages, the chief of which was mechanical injury to the spermatozoa. Recent methods comprise: (1) the removal of the semen from the vagina by means of a vacuum extractor. This causes the walls of the vagina to collapse and express the sperm into the lumen of the extractor; (2) the use of sperm collector —a rubber bulb-like arrangement, introduced into the vagina before mating; (3) the use of an artificial vagina in the case of sheep—a cylinder, the inner wall of which is of rubber and simulates the genital passage. At the moment of coitus this is placed at the tip of the ram's penis and the ejaculate is collected; and (4) a dummy method. A dummy female has been successfully used for the collection of semen in pigs, cattle and the horse. An interesting physiological sidelight of this method is that to evoke sexual excitement in the male there is no absolute need for a special sexual stimulus: visual stimulus may suffice.

Amongst the advantages of non-sponge methods are: that the semen so obtained contains 20-40 times more spermatozoa; in no instance is the sperm immobile; the quantity obtained is greater. At present the sperm collector method appears to be the more suitable method for large scale practice.

The basic difference between artificial and natural insemination is that in the latter (with the exception of the pig) the semen is introduced into the vagina, whereas in the former it is directed immediately into the cervix. In sheep, where the sperm has been introduced into the cervix, the percentage of conceptions was 66, whilst with the same quantity introduced into the vagina the percentage was 33.

The article gives a very comprehensive record of the technique of collection of sperm, methods of sterilising instruments and the technique of injection.

Dilution of Sperm.—By increasing the volume of the semen with a suitable diluent it is possible to raise the number of females inseminated by a single ejaculation. This is of great practical significance in cattle and sheep. In cattle a dilution of 1 : 64 and in sheep one of 1 : 32 have been used without reducing the percentage of conceptions.

The chemistry of sperm dilutors is a question which may be expected to receive considerable attention in the future. The solutions at present in use contain glucose and mineral phosphates.

J. G. W.

The author suggests an examination of the anthelmintic value of the wild ferns of India, specially of the margosa plant.

R. T. L.

(Contributed by the Imperial Bureau of Agricultural Parasitology.)

SHIRE HORSE SOCIETY.

A further indication of the improved conditions in Shire Horse trade was furnished at a recent meeting of the Council of the Shire Horse Society, when it was reported that the entry for their Fifty-fifth Show is higher than for the past four years.

The list of exhibitors contains many names which have long been associated with the annual event, while the younger element is again well represented.

There will be an added interest in the judging for the champions on this occasion as the present holders of the Society's hundred guinea Gold Challenge Cup for the best stallion (Bcwer Winalot) and the Society's fifty guinea Gold Cup for the best mare or filly (Kerry Clanish Maid) are again entered for competition, and success on this occasion means that these trophies are won outright.

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THE NATIONAL STUD

Sir Henry Greer, K.C.V.O., has resigned his appointment as Director of the National Stud, owing to ill-health, and Mr. Noble B. Johnson, previously Assistant Director, has been appointed to succeed him. Mr. P. E. Burrell has been appointed Assistant Director.

Review

[Topley, W. W. C. [M.A., M.D., F.R.C.P., F.R.S., Professor of Bacteriology and Immunology in the University of London.] (1933.) **An Outline of Immunity.** Pp. 415. London: Edward Arnold and Co. [18s.]]

This book is an advanced and impartial account of immunity as it is understood to-day and is the work of one well qualified to write on the subject.

We welcome the advent of a work such as this, for there is none of which we are aware which deals with this engrossing subject with such clarity nor with such thoroughness. It is the product of an ordered mind and even a glance at the "Contents" will indicate that the author had a system which he has retained to the end.

Professor Topley likens his subject to a vigorous infant "a little uncertain in its movements and more than a little incoherent in its speeches," but we feel justified in saying that its rapid approach to healthy adolescence will have been assisted in no small degree by this understanding outlook which is now completed.

We are told that the medical man "must learn the art of drawing the best conclusions he can from data that are often incomplete and sometimes highly confusing." How much this doctrine applies to veterinarians only those engaged in its pursuits are able to judge and those, as well as the medical man, will "find immunity an excellent training ground."

It is not possible with fairness to draw special attention to this or that chapter, but we may say those on "Immunity in Virus Diseases," "The Practical Application of Immunity in Diagnosis," "Prophylaxis" and "Treatment" are especially valuable.

Each chapter, and there are 21, concludes with a very full list of references.

The printing and publication have been well carried out in the same manner as that selected for Topley and Wilson's "Principles of Bacteriology and Immunology," and is nice work.

STANDARDISATION OF BIOLOGICAL STAINS

The Council of the Royal Microscopical Society has appointed a committee, upon which representatives of other bodies will serve also, to consider the standardisation of biological stains and staining materials manufactured in this country, and to make recommendations to the Council of the Society of standard specifications and tests for adoption, with a view to the certifying of manufactured stains conforming to such standards. This step has been taken in view of the importance of stains and staining materials used by microscopists engaged in biological investigation and research, and with a view to investigating the variability of the stains at present available.

Report

DEPARTMENT OF AGRICULTURE, NEW ZEALAND

ANNUAL REPORT, 1932-33

The veterinary section of this report, contributed by Mr. C. S. M. Hopkirk, B.V.Sc., Officer-in-Charge of the Wallaceville Veterinary Laboratory, records the various problems handled during the period under review. In addition to the increasing number of specimens submitted for bacteriological and pathological examinations, the veterinary staff at the laboratory and in the field have been engaged in the study of those conditions inimical to the Dominion's livestock industry.

Referring to contagious abortion, the interesting observation appears that 31 per cent. of some 500 composite samples of town milk supply gave a positive reaction to the agglutination test for this disease—a point which manifests not only the high frequency of the specific organism in the milk consumed in New Zealand, and probably elsewhere, but emphasises, rather than otherwise, the comparative rarity of Brucella infection in man, at least, in an active form.

Following the work on sterility in cows in relation to the examination of bull's semen, measures of practical utility have been instituted through the culling of bulls showing sperm abnormalities. Streptococcic infections of the testes leading to cervicitis in cows have been noticed. Observations on diet in relation to sterility are proceeding.

Steps taken to combat mastitis, including the systematic examination of the milk of individual cows, the segregation of animals showing signs of latent infection, and the application of hygienic measures have advanced, with, it is claimed, very satisfactory results in regard to general improvement in herds and lowering of the incidence of this disease wherever this system has been introduced. Attempts to disinfect the udder by means of chemical and gaseous agents have not, as might be expected, been followed by any striking success.

One case of anthrax was diagnosed. For many years New Zealand has been free from this disease.

Experiments in the treatment and prevention of grass tetany by magnesium are being undertaken. A report on this branch of research has already been published in *The Veterinary Record*.

Johne's disease has been in evidence, affecting cattle chiefly in the dairying district of Taranaki.

The effects of iodine deficiency in calves have been systematically studied and the results indicate a coincident occurrence of incipient goitre among both calves and children in the iodine deficient areas.

In relation to sheep, further observations have been made in regard to *ante-partum* paralysis of ewes, which tend to show that the condition is attributable to a ketosis due to increase of the fat content of the liver from fat deposits; the crisis of the condition being, so it seems, accelerated by sudden starvation. The pathological changes are accompanied by a marked increase of phosphate in the urine. The urine, however, is non-toxic to mice on experimental inoculation.

The possibility of enzoötic icterus being associated with ragwort poisoning has been the subject of investigation, but no supporting evidence could be adduced. One experimental sheep consumed within a month over 400 lbs. of young, green ragwort without showing any appreciable ill-effects.

It will be noted with interest that two cases of tuberculosis in sheep were observed by inspectors engaged in the meat export slaughter-houses.

Following upon the valuable work of Mr. D. A. Gill, M.R.C.V.S., concerning the etiology of pulpy-kidney disease of lambs and the discovery of a causal intestinal toxin, antitoxin prepared from immunised horse serum has been used upon a large number of lambs with excellent results, thus demonstrating the practical utility of the antitoxin in the case of valuable pedigree flocks. Its cost of production is too great to warrant employment on a wholesale scale.

The possible relation of so-called "circling disease" (meningo-encephalitis) to infection introduced by the fly (*Œstrus ovis*) is the subject of further inquiry and experiment. Observations regarding the life cycle of the tapeworm (*Moniezia expansa*) are proceeding.

In connection with poultry pathology, a bone disease, resembling Paget's disease of human beings, has been noted to occur. The cause remains obscure.

The veterinary section of the annual report concludes with interesting notes on the studies pursued by the Department's biochemist, Mr. S. W. Josland, and the Nutrition Research Officer, Dr. I. J. Cunningham. H. A. R.

THE IMPORTANCE OF GRASS

Grass is the most important crop in the British Empire. In Britain alone the area under grass very greatly exceeds the acreage under all other crops. With the decline in arable farming brought about by the poor prices obtainable for the produce of arable crops, grass farming has increased in importance during the past decade; and at no time has its importance been of more vital interest to the country than it is at the present time. The whole of the livestock and dairying industry of Britain is very largely dependent on grass. As Mr. A. G. Street said in the July issue of *The Scottish Journal of Agriculture*, "grass is largely responsible for the supply of over fifty million pounds' worth of milk per annum." But we very often hear of grass referred to as if it were "waste land."—*Scottish Farmer*.

N.V.M.A. Divisional Reports

SOUTHERN COUNTIES VETERINARY SOCIETY*

MEETING AT SALISBURY

A meeting of the Southern Counties Veterinary Society was held at the Red Lion Hotel, Salisbury, on Friday, December 15th, at 2.30 p.m., when Mr. E. F. Beckett, of Blandford, contributed an interesting paper entitled "Notes on Some Pig Diseases."

The President (Mr. J. F. D. Tutt) was in the chair, whilst the other members present were Miss Cust, Messrs. E. F. Beckett, E. R. Harding, R. E. Klyne, E. S. Martin, W. F. Maynard, H. C. Rockett, J. T. Turney, J. S. Woods and J. B. White (Hon. Secretary), together with Mr. A. E. Roberts as a visitor.

The minutes of the previous meeting, having been published in *The Veterinary Record*, were taken as read and confirmed.

Correspondence.—The Hon. Secretary announced that he had received apologies of absence, and expressions of regret at inability to attend, from Sir Frederick Hobday, Messrs. R. E. C. Bullen, J. W. McIntosh, G. P. Male, J. Facer, G. Parr and J. B. Tutt.

Continuing, the Hon. Secretary said he was sorry to have to announce the resignation of Mr. A. J. Moffett, late of Newport in the Isle of Wight. Mr. Moffett had gone out to the British West Indies, and he supposed there was no alternative in the circumstances but to accept the resignation.

On the proposition of the President, seconded by Major Martin, the resignation was accepted with regret, and the Hon. Secretary was requested to convey the best wishes of the members to Mr. Moffett for his future success.

The only other correspondence, the Hon. Secretary continued, had been in connection with a request for information from the N.V.M.A. regarding the fees charged for distemper inoculation.

This request he had sent round to the members, following which he had sent a summary of their replies to the N.V.M.A.

Next Meeting.—The Hon. Secretary also mentioned that the President wished to know whether they would care to have another meeting, before the annual meeting, which was usually held early in April.

The President explained that Mr. Henry Gray had been ill and, as a result, had been unable to read the paper he had promised.

He had therefore asked Mr. Stainton, who was prepared to open the discussion on that paper, if he would contribute a paper on his

*Received for publication January 24th, 1934.

own; and Mr. Stainton had written that he would be pleased to do so, suggesting as a subject either "Some Problems in Small Animal Practice" or "Skin Diseases of the Dog and Cat."

If, therefore, they would like another meeting, he thought he could arrange one.

Major Martin and Captain Wood both thought this an excellent idea and, on the suggestion of the President, it was decided that the Hon. Secretary should write Mr. Stainton accepting his offer, and choosing the subject of "Skin Diseases in the Dog and Cat."

It was agreed that the meeting be held in Southampton some time in February, and that Captain Bullen be asked to open the discussion.

Nomination.—The Hon. Secretary announced the nomination for membership of Mr. K. I. Marshall, of Bridport, proposed by Mr. Beckett, of Blandford, and seconded by the President.

Before concluding the business of the meeting, Major Martin asked if the members of the Council might be called together before the next meeting to discuss the business of the Society.

The President agreed, and it was decided to hold a meeting half-an-hour before the next general meeting at Southampton.

Paper.—Mr. Beckett was then invited to contribute his paper, "Notes on Some Pig Diseases." [This paper, together with a report of the discussion which followed its presentation, will be found at the commencement of the present issue. —Ed., *V.R.*]

At the close of the discussion Mr. Martin said it seemed to him that they ought to enter some protest against the deliberate way in which their legitimate work was being taken out of their hands and put into the hands of whole-time officials for whom they had, of course, to pay; and Mr. Maynard supported this.

The President suggested that perhaps Mr. Martin would move a resolution.

Mr. Martin said that he certainly thought they should take some action, but whether they should go to the length of sending a resolution or not, he did not know. If they did, he thought it should be to the effect that they agreed with the opinion expressed by Mr. Beckett in his paper, that clients should inform their local practitioner and that the responsibility of notifying the Ministry should lie with him rather than with the police.

Mr. White thought a recommendation would be better, and it was eventually agreed to be content with the report in *The Veterinary Record*, the President observing that it would be quite clear from that what their views were.

Votes of Thanks.—The President proposed a hearty vote of thanks to Mr. Beckett for his paper, and Mr. Martin, in seconding, said it had been particularly interesting because Mr. Beckett was able to speak from practical experience.

Tea was afterwards partaken of at the invitation of Messrs. Harding and Rockett, and a vote of thanks to these two members for their hospitality was proposed by Mr. Woods, seconded by Mr. Maynard, and carried with acclamation, Mr. Harding making suitable acknowledgment.

J. B. White, *Hon. Secretary.*

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ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION*

Officers Elected at London Meeting

A meeting of the Royal Counties V.M.A. was held at the Conway Hall, Red Lion Square, London, on November 24th, 1933.

The retiring President, Captain H. B. Collet, occupied the chair, and the following members were present: Messrs. J. H. L. Addis, A. J. Baxter, Captain R. E. C. Bullen, Messrs. T. A. R. Chipperfield, Dixon, Major G. W. Dunkin, Lieut.-Colonel H. Greenfield, Major H. Kirk, Messrs. J. W. McIntosh, G. P. Male, Major F. J. Taylor, Messrs. J. Willett, R. A. Willett and H. Bell (Hon. Secretary).

The minutes of the previous meeting, having been published in *The Veterinary Record*, were taken as read and were confirmed and signed.

Correspondence.—(1) Apologies for absence from the following members: Mr. N. S. Barron, Mr. J. Bell, Professor J. B. Buxton, Major A. C. Duncan, Captain J. R. Hewer, Sir Frederick Hobday, Major Harry Lepper, Mr. P. Lloyd, Mr. J. McKerlie, Major-General Sir John Moore, Colonel Rees-Mogg, Dr. L. Sheather, Major S. L. Slocock, Lieut.-Colonel P. J. Simpson, Major R. C. Tennant and Colonel G. K. Walker.

(2) From Mr. A. V. Franklin, who had left the district, resigning his membership. Mr. Franklin's resignation was accepted with regret.

Election of Officers

The election of officers for the coming year followed.

President.—The retiring President proposed from the chair that Mr. R. A. Willett be elected as his successor.

This proposition was carried unanimously, and Mr. Willett, thanking the members, mentioned that he was following in the footsteps of three Willetts who had been Presidents. He thought he could claim to be the youngest member who had ever occupied the chair and he hoped that his enthusiasm would compensate for anything which he might lack in the matter of years and experience.

Vice-Presidents.—Major R. C. Tennant, Major J. J. Dunlop, Colonel G. K. Walker and Captain H. B. Collet.

* Received for publication, December 29th, 1933.

Hon. Auditor.—Mr. J. Willett (re-elected).

Hon. Treasurer.—Captain R. E. C. Bullen (re-elected).

Hon. Secretary.—Mr. H. Bell (re-elected).

Council.—Mr. J. H. L. Addis, Mr. J. Craft, Major A. C. Duncan, Major G. W. Dunkin, Lieut.-Colonel H. Greenfield, Mr. G. P. Male, Dr. Leslie Sheather and Major F. J. Taylor.

Representative on Council of Victoria Veterinary Benevolent Fund.—Major G. W. Dunkin (re-elected).

On the proposition of Mr. H. Bell, seconded by Mr. J. Willett, the election of representatives on the Council of the N.V.M.A. was postponed until the April meeting.

Interesting Case.—Mr. T. A. R. Chipperfield described the case of a very emaciated sow which died the day after he attended it. At the time it was covered in lice and it seemed probable that the emaciation was due to tuberculosis. On *post-mortem* examination, however, it was found that the sow had acute sero-fibrinous peritonitis, the peritoneal cavity being full of fluid. There were fibrinous adhesions between all the viscera, and on delving in the midst of them, a nine-inch wooden meat skewer was found to have punctured the ileum in the sub-lumbar region. The remarkable feature of the case was that the skewer was intact and showed no tooth marks. It was greenish-black in colour, and it was difficult to surmise how long it had been inside the animal.

Next Meeting.—It was decided to hold the next meeting at Reading, and it was left to the President, Secretary, Treasurer and Mr. G. P. Male to find the most suitable venue.

Major Kirk asked if it were not possible to do something to improve the attendance at the meetings.

Mr. Addis suggested that if demonstrations of new instruments could be arranged members might be attracted. He felt sure that firms would only be too glad to send along various new instruments with demonstrators.

Address by the President.—This concluded the business side of the meeting, which was next addressed by the new President, who spoke on "Some Points of Interest to the Veterinarian." Mr. R. A. Willett said that his paper would be somewhat disjointed, but he hoped there would be material therein for discussion. [This paper is reproduced, together with the discussion upon it, earlier in this issue.—Ed., *V.R.*]

Votes of Thanks.—Captain H. B. Collet, the retiring President, proposed a vote of thanks to Mr. R. A. Willett, which was carried with acclamation.

A tribute was also paid to the work of the retiring President by Mr. McIntosh and a vote of thanks was passed to him.

H. Bell, *Hon. Secretary.*

In Parliament

The following questions and answers have been recorded in the House of Commons recently:—

Chemical Defence Experiments

Captain Erskine-Bolst asked the Financial Secretary to the War Office the number of horses, dogs and other animals, respectively, used for poison-gas experiments at Porton, Cambridge and elsewhere in Great Britain, respectively, during the years 1932 and 1933?

The Financial Secretary to the War Office (Mr. Duff Cooper): No dogs or horses were used for experiments during the years in question. During 1932, 83 animals were used at Porton for chemical defence experiments, and 190 for experiments in connection with the subject of safety in industry. The corresponding figures for 1933 were 72 and 343 respectively. No experiments on animals were carried out elsewhere in connection with chemical defence.

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Ponies in Mines.

Sir R. Gower asked the Secretary for Mines the number of ponies per million tons of coal raised in 1933 in the mines of Nottinghamshire, North Derbyshire, South Derbyshire, Leicestershire, North and South Staffordshire; and the number of ponies employed per million tons raised in the districts of Lancashire, Yorkshire South and Yorkshire West, Durham, Northumberland, Scotland, and in the Swansea and Cardiff divisions, in the same year?

Mr. E. Brown: The information, so far as it is available at present, is as follows:—

District and Number of Ponies Employed Per 1,000,000 Tons of Coal Raised.

	(Provisional)
Nottinghamshire	174
North Derbyshire	266
South Derbyshire	370
Leicestershire	292
North Staffordshire	15
South Staffordshire (including Cannock Chase) and Worcestershire	286
Lancashire and Cheshire	18
South Yorkshire	107
West Yorkshire	257
Durham	378
Northumberland	259
Scotland	35
Swansea Division, Cardiff Division ...	259

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Pit Boys (Instruction Courses)

Sir R. Gower asked the Secretary for Mines the number of collieries at which an approved scheme of training, both theoretical and practical, is in force for boys under 16 years of age who are intended for pony driving and other work below ground; the number of weeks given for such training both above and below ground; and whether he is satisfied with the present methods of training and is prepared to ensure the general adoption of any improved scheme?

Mr. E. Brown: The lines which are being followed in the organisation of courses of instruction for the collective training of pit boys in matters of safety are explained in the Annual Report of the Secretary for Mines for 1932. The movement was started in Yorkshire and has spread to Nottinghamshire, Derbyshire, Durham and Northumberland, and to parts of Lancashire, Staffordshire and South Wales. The courses now in progress cover between 5,000 and 6,000

boys, and further developments are being planned in several districts. The length of the courses varies from ten to 25 weeks. Good progress is being made, and I shall continue to give all possible help to promote the further development of this most useful work and its extension to all the coalfields.

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HORSES (EXPORT)

Mr. HENDERSON STEWART asked the Minister of Agriculture what were the total quantities of horse flesh exported from this country during the years 1913, 1923, 1932, and 1933?

Mr. ELLIOT: Horse flesh is not separately distinguished in the official published returns. From information supplied by the Governments of the importing countries mainly concerned it would appear, however, that the number of horse carcasses exported to them from this country in 1923 and 1932 was 51,137 and 22,111, respectively. Figures in respect of 1933 have not yet been received. I regret I have no figures for 1913.

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CRUELTY TO ANIMALS

Lieut.-Colonel MOORE asked the Home Secretary whether his attention had been drawn to the case of David Price, who was charged at Brighton Police Court with cruelty to a cow in calf, and proved to have blinded the animal in both eyes by beating it with a stick; and whether, in view of this and similar cases of cruelty, he will consider extending the powers of magistrates to enable the punishment of flogging to be awarded in such cases?

Sir J. GILMOUR: I have seen a Press report in which it is stated that a sentence of three months' imprisonment was imposed in this case. I do not see my way to initiate legislation as suggested in the second part of the question.

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EAST AFRICA (GAME ANIMALS)

Sir R. GOWER asked the Secretary of State for the Colonies (1) if he has considered the copy sent to him of a publication issued by a British publishing firm describing reprehensible practices in the destruction of lions in East Africa; and whether, since so many charges of this kind are made, he will consider instituting an inquiry on the spot into the whole methods of East African safaris, including the methods of photographing wild animals; (2) if he has considered the copy sent to him of a recent publication alleging fishing for lions in East Africa with baited hooks attached to ropes drawn by motor cars; and whether he has investigated, or will investigate, the allegations made?

Mr. M. MACDONALD: I understand that the first question relates to a book recently published entitled "Lions, Gorillas and their Neighbours." The date of the incident recorded on page 276 of that book is not given, but I would remind my hon. Friend that a few years ago legislation was enacted in the East African territories prohibiting the use of motor vehicles or aeroplanes in getting to close quarters with game animals for the purpose of hunting, killing, capturing or unduly disturbing them. These practices are an offence under the game laws, punishable with fine or imprisonment and forfeiture of any trophies and of any prohibited weapon or instrument used. As regards the second question, my right hon. Friend's attention has already been drawn to notices which have appeared in the Press regarding the use of baited hooks, attached to motor cars, in capturing lions and also to a published denial of the accusation. The Acting-Governor of Tanganyika has been asked for a report on the alleged incident, and the matter will be further considered on receipt of his reply. In view of the legislation referred to above, I am doubtful as to the necessity of instituting a special inquiry into the whole methods of safaris.

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ANIMAL AND BIRD POISONING

Mr. HALL-CAINE asked the Home Secretary if his attention has been called to outbreaks of animal and bird poisoning in different parts of the country; whether any reports have been made to him as to the causes of such poisoning; and whether, in view of the destruction of animal life which has resulted, the reason for scattering poison in these cases has been cleared up and the responsibility assessed?

Sir J. GILMOUR: I have seen references in the Press to the finding of a number of dead rooks in and around Melcombe Horsey, Dorset, but my attention has not otherwise been called to the matter. I have obtained from the local police a report, from which it appears that after making inquiries they have reached the conclusion that the death of the birds in question was due to eating flesh containing strychnine, which had presumably been put down for the purpose of destroying vermin. Efforts to trace the sale of strychnine during the past year to persons resident in the county have been unsuccessful, and search has failed to reveal any remains of poisoned bait.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Feb. 19th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

Feb. 21st.—Annual Dinner of the Midland Counties Division, N.V.M.A., at Birmingham.

Feb. 23rd.—Meeting of the North Wales Division, N.V.M.A., at Chester.

Feb. 27th.—Annual General Meeting of the Lancashire Division, N.V.M.A., at Liverpool.

Feb. 27th.—Annual General Meeting of the Lancashire Division, N.V.M.A., at Liverpool.

Feb. 28th.—Meeting of the Southern Counties, Division, N.V.M.A., at Southampton.

July 30th-Aug. 3rd, 1934.—National Veterinary Medical Association Congress, Edinburgh.

Aug. 13th-18th, 1934.—Twelfth International Veterinary Congress, New York.

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R.C.V.S. COUNCIL ELECTION

There are still further nominations to record, and they are those of Lieut.-Colonel W. S. Mulvey, of Chelmsford, who has been nominated

by Professor Sir Frederick Hobday and seconded by Professor J. McCunn, and Major R. F. Wall, T.D., M.R.C.V.S., proposed by Professor J. McCunn and seconded by Professor J. Macqueen.

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VETERINARY SALARIES IN DISPUTE

N.V.M.A. Representations Over-ruled in Herefordshire

The prolonged controversy over the appointment of a County and City Veterinary Officer reached a head on Wednesday, January 31st, when the Herefordshire Diseases of Animals Committee appointed Mr. A. J. Wilsdon, of Cambridge, to succeed Mr. R. Wooff.

It will be recalled that as the result of an advertisement, which the veterinary journals refused to accept because of the fact that the salary offered was £100 below the minimum recognised by the National Veterinary Medical Association, three candidates were personally interviewed, but that the sub-committee made no selection and decided to ask the Agricultural Committee to recommend the County Council to increase the salary offered to £600. This the Agricultural Committee refused to do.

The City Council, who were desirous of the milking cows under their jurisdiction being examined four times a year, had, on the other hand, decided to favour an appointment at the higher salary.

At the meeting on January 31st Dr. Maples explained the position which had arisen, and pointed out that the City Council could at any time withdraw from the agreement by giving three months' notice. The sub-committee could either make an appointment from the candidates that had already been interviewed or could re-advertise.

Mr. Matthews proposed that Mr. Wilsdon should be appointed.

Mr. C. E. Cresswell seconded, and Alderman Cave and Mr. Hopkins supported.

Upon their being asked by the Chairman as to whether the city representatives had any observations to make, Mr. J. R. Barker, M.R.C.V.S., outlined the policy of the City Council, and pointed out that they were willing to pay £25 towards the extra £100 which would bring the salary to £600. The Council, he said, were very anxious that the children of the city should be safeguarded as far as possible against infection by tuberculosis and were, therefore, keen that the best appointment should be made. He moved an amendment that the post should be re-advertised, this time at £600.

In view of the decision of the Agricultural Committee, this was ruled out of order, and Mr. Barker proposed, as a further amendment, that the post should be re-advertised at £500.

Dr. Shaw seconded.

Alderman Bray said he had voted against the appointment of any of the three candidates who were interviewed because he did not think that their qualifications were sufficiently good, having regard to the importance of the post. The work of a veterinary officer would become heavier in view of recent legislation, and they had in the county a breed of cattle of which they were proud and which was practically immune from tuberculosis. If the sub-committee wanted to maintain the reputation of the breed they should appoint the best man possible.

Mr. Parker put forward the suggestion that the members of the County Council knew far more about agriculture and the work of a veterinary officer than the members of the City Council, and it was only because of the attitude of the National Veterinary Medical Association that the City Council had asked that the salary should be increased to £600.

Mr. Barker: If that is an imputation on me I deny it. What I have done has had nothing to do with the Association.

Mr. Watkins supported the views expressed by Alderman Bray.

Mr. Barker's amendment was lost by nine votes to seven, and the resolution proposed by Mr. Matthews was carried by twelve votes to six.

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The Position at Aberdeen

At a joint meeting in Aberdeen, on January 26th, of the Public Health Committee and the Diseases of Animals Committee of Aberdeen County Council, the special business before the meeting was the consideration of the procedure in the appointment of two assistant veterinary inspectors under the new scheme for co-ordinating the veterinary services in the town and county.

It was explained that under the new scheme for co-ordinating the town and county veterinary services Mr. George Howie had been appointed Chief Veterinary Officer for the town and county, and that he was to be given two assistants. This would mean only one extra official, as the post of City Officer, previously held by Mr. James M'Allan, would be covered under the joint scheme.

The County Clerk intimated that he had had a long correspondence with the Secretary of the National Veterinary Medical Association over the matter of the salary proposed for the new assistantships. The salary proposed by the committee was one starting at £360 and rising by £15 increments to £450. This had not been accepted by the Appointments Committee of the Association, and they would not accept the advertisement for the post for *The Veterinary Record*. They proposed a starting minimum of £400 for such an appointment.

The County Clerk said he had inserted the advertisement in three daily newspapers, and now there was a notice in the veterinary journal warning people not to apply for the posts. He had had, however, a good number of requests for forms of application.

Dr. Sleigh, Strichen, referring to the action of the Veterinary Association, said it was scandalous.

The suggested appointment of a committee to consider the applications, along with a committee from the Town Council, was approved, and a committee was elected.

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PERSONAL

Appointment.—Miss A. W. Greener, Dip. Bact., M.R.C.V.S., has been appointed to the scientific staff of the Wellcome Research Laboratories, Beckenham, Kent.

Marriage.—Curtis—Carter. On January 25th, at St. John's Church, Alton, Staffs., Hugh, second son of Mr. James William Curtis, M.A., and Mrs. Curtis, of Higher Bent Farm, Cheadle Hulme, Cheshire, and Elsie Mary, only daughter of Captain Arthur Carter, M.R.C.V.S., and Mrs. Carter, of Ashbourne, Derbyshire.

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R.C.V.S. OBITUARY

Cameron, Samuel Sherwen, D.V.Sc., (Melb.), 3, Fairview Grove, Hawthorn, Victoria, Australia. Graduated N. Edinburgh, May 23rd, 1888; died December 31st, 1933.

Holland, Michael William, The Model Farm, Athy, Co. Kildare. Graduated Liverpool, July 14th, 1914; died January 22nd, 1934.

The Late Dr. S. S. Cameron

In reporting the death of Dr. Cameron, the former Director of Agriculture in Victoria, which took place at his home at Hawthorn on the last day of 1933, after an illness of several months' duration, *The Melbourne Argus* says: "Dr. Cameron, who was born in Cumberland, England, was aged 68 years. After leaving school he was articled to a solicitor. A legal career, however, did not appeal to him, and after two years he entered the Veterinary College at Edinburgh. He proved to be a brilliant student. He was a medallist in theoretical and practical chemistry, materia medica, botany, and physiology. He also won a bursary for the highest aggregate marks for the first two years. The first position occupied by Dr. Cameron in Australia was that of hospital surgeon at the Melbourne Veterinary College, a position which he held from 1889 till 1894. Then he spent two years in New Zealand. Returning to Melbourne in 1896, he took an appointment as principal veterinary officer of the Board of Health. In this capacity he collaborated with the late Dr. Gresswell in the drafting of the Meat Supervision Bill, which was passed into law. In 1911 he was appointed Director of Agriculture. As he had been so closely associated with veterinary science the wisdom of the appointment was questioned in some quarters; but time proved the wisdom of the choice. He aimed at bridging the gulf between the practical farmer and the scientist; and in this he achieved remarkable success. One of the first reforms which he instituted was the issue of Government certificates for soundness in stallions. At first there was a disposition to regard his methods as drastic, but the system spread to other States, and the wisdom of it is now questioned by no horsebreeder of any standing.

"Dr. Cameron took a conspicuous part in the establishment of the veterinary school and research institute at the Melbourne University; and the School of Agriculture benefited by his driving force. As the result of his efforts there are 35 officers in the Department of Agriculture who hold degrees as bachelors of agricultural science. The success of the Werribee Experimental Farm was also largely due to his enthusiasm and foresight. It was a fitting tribute that his name should be the first recorded on the register of the Melbourne University as a doctor of veterinary science. The degree was conferred in 1909. Dr. Cameron was associated with the formation of the first Young Farmers' Clubs, and he maintained his interest in them after his retirement from the Department in 1931.

Dr. Cameron leaves a widow, who is a daughter of the late Mr. William Milne, of Dunedin (N.Z.), a son who is in the Department of Agriculture, and a daughter.

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IN THE COURTS

R.S.P.C.A. Inspector Imprisoned for Bribery

Before the Recorder (Sir Ernest Wild, K.C.) at the Central Criminal Court on Tuesday of last week the trial was begun of Henry Harold Knight, 54, inspector, on an indictment charging him with that he, being an agent of the Royal Society for the Prevention of Cruelty to Animals, corruptly accepted gifts from four persons as an inducement or reward for showing favour to them in relation to his (Knight's) principals' affairs or business. Knight, who was on bail, pleaded "Not Guilty."

Mr. Eustace Fulton and Mr. Anthony Hawke prosecuted, and Mr. J. D. Cassels, K.C., Mr. Laurence Vine and Mr. T. J. Kelly were for the defence. Mr. Gordon Jones watched the case on behalf of the Royal Society for the Prevention of Cruelty to Animals.

Knight, giving evidence, denied that he ever received any bribes. He said he entered the service of the R.S.P.C.A. in 1911. His wages were £4 5s. a week, with certain allowances, and his duty was to look for cases of cruelty. Since he had been with the Society he had been instrumental in securing 4,700 convictions, the fines amounting to nearly £10,000.

Mr. Laurence Vine: From first to last have you ever received any monies from private persons, horse owners, or dealers, in any shape or form? No.

What do you say about these charges?—They are all false.

Mr. S. Polhill, solicitor to the R.S.P.C.A., said that an inspector's job was a difficult one. If he were a vigilant officer and did his duty he was apt to make a lot of enemies. Knight had been suspended from duty pending his trial.

The Recorder, in summing up, after a three days' hearing, said that nothing that had happened in the case ought to reflect in the least degree on the Royal Society for the Prevention of Cruelty to Animals, which, everyone would agree, did an enormous amount of good in the metropolis and the country. Nothing, remarked Sir Ernest Wild, could be worse for that admirable institution than to employ a man guilty of the charge alleged against Knight. The Society was doing its best to carry into operation the Protection of Animals Act, which punished cruelty to animals with a ridiculously small fine not exceeding £25 or three months' imprisonment. "Some of us might say," added the Recorder, "that that is a perfectly absurd maximum. It is a very great pity that many people who are cruel to animals are not sent to prison more often than they are."

The jury returned their verdict after consulting together in private for 25 minutes. Knight was found guilty on six counts of the indictment, and on the direction of the Recorder the jury found him not guilty on two counts on the ground of absence of corroboration.

Chief-Inspector Dean said there were no previous convictions against Knight. The officer remarked that he was afraid the prisoner had had trouble over domestic tangles. He bore a great reputation for his work in the East End. There had been other complaints of a similar type, said Chief-Inspector Dean, but the persons concerned refused to make statements.

Mr. Cassels, in a plea for leniency, said that in addition to any punishment imposed, Knight would lose his position, his good record, and a pension to which he was entitled. "It means the end," remarked counsel, who asked the Recorder to take into consideration Knight's good character, the good work he had done in the East End of London, and the fact that he had brought to conviction a very large number of persons guilty of cruelty to animals. There could be no bribery without temptation, commented Mr. Cassels, and to some extent the prisoner must have been tempted to take money.

The Recorder, addressing Knight, said he had been found guilty on six counts on the clearest possible evidence. He had aggravated his offence by putting forward a defence that one of the witnesses in the case had planted money on him,

which was untrue. "I very much regret to have to send to prison a man who has hitherto borne an excellent character," said the Recorder. "No doubt you have to a large extent been supporting yourself with bribes extracted from people in the East End."

Remarking that the prisoner was liable to a sentence of two years' imprisonment on each of the six counts on which he had been found guilty, the Recorder said he would pass a sentence of twelve months' imprisonment in the second division to cover the whole of the counts.

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Bogus "Veterinary Surgeon" Sentenced

At a special sitting of the Llanbadarn magistrates on January 26th, Daniel Brown, 24, Horeb, Five Roads, Llanelly, was charged by D.C.C. Daniel Thomas with having obtained £60 by false pretences.

Miss Mary Evans, of Ponterwyd, said that her father had engaged Brown to work on his farm. The latter told her that he had passed as a veterinary surgeon, that he had been in Edinburgh College for seven years, and that his education had cost him an enormous lot of money. He asked her before Christmas whether she would lend him money to purchase veterinary surgeon's instruments. When accused first came to them he gave his name as Dan Jones, of Aberdare. She had seen an envelope belonging to the accused addressed "Dan Jones, M.R.C.V.S., Tynrhos, Ponterwyd." She knew that M.R.C.V.S. meant that accused was a qualified veterinary surgeon. Accused asked her for £100 to get veterinary surgeon's instruments from a chemist's shop at Aberystwyth. She agreed to let him have £60, and on the morning of January 10th handed him that sum.

The money had been lent under promise of marriage, and the accused failed to keep an appointment to make arrangements for the wedding, and she had not seen him again until that day.

The Chairman having stated that the justices were satisfied a case had been made out, D.C.C. Thomas read a list of seven previous convictions, mostly for stealing, and mentioned that accused had been at Borstal.

Accused was committed to prison for six months with hard labour, and the bench ordered that a motor car which accused had bought be handed over to Miss Evans.

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Chloroforming a Dog

At Wallasey Police Court, a chemist was summoned for causing unnecessary suffering to a dog by improperly administering chloroform. It was stated that the dog, which was produced alive to the magistrates, had been left in a lethal chamber for 14 hours. It was discovered there by a police-constable when examining the premises. The chemist told the magistrates that he had destroyed many dogs by means of pure anæsthetic chloroform. After he had chloroformed this dog he visited the chamber four times to see if everything was all right, and he came to the conclusion that the dog was dead. He could not understand its being alive the next morning. The chairman of the magistrates, in dismissing the case, said that they thought that the defendant was negligent in not satisfying himself that the dog was dead, but they were not prepared to find that the chloroform was improperly administered.

VETERINARY RESEARCH IN EAST AFRICA

Conference at Nairobi

Through the courtesy of Captain R. Daubney, M.Sc., M.R.C.V.S., Chief Veterinary Research Officer, Kabete, Nairobi, Kenya, we are enabled to report the opening proceedings of the Conference of East African Veterinary Research Workers, held at Nairobi, from January 6th to 10th, 1934, and which was the third of a series of conferences arranged by the Conference of East African Governors covering medical, veterinary, agricultural and tsetse-fly investigation.

The delegates assembled at Kabete included Major the Hon. H. H. Brassey-Edwards, Deputy Director of Agriculture (Animal Industry) and Chief Veterinary Officer, Chairman; Mr. R. Daubney, Chief Veterinary Research Officer; Dr. A. R. Paterson, Director of Medical Services; Dr. R. P. Cormack, Senior Bacteriologist; Mr. J. R. Hudson, and Mr. W. B. C. Danks, Veterinary Research Officers, all of Kenya Colony; Mr. W. F. Poulton, Director of Veterinary Services; Mr. R. W. M. Mettam, Veterinary Pathologist; Dr. W. H. Kauntze, Director of Medical and Sanitary Services, of Uganda; Mr. R. L. Cornell, Veterinary Research Officer of Tanganyika Territory, and Colonel C. W. G. Walker, Secretary to the Conference of East African Governors.

By the invitation of the Chairman, a number of additional medical and veterinary workers were present.

Demonstrations relating to East African research problems were arranged for the delegates by the Chief Veterinary Research Officer.

In opening the Conference H.E. the Governor of Kenya, Sir Joseph Bryne, said that the present series of research conferences had been arranged as the result of recommendations made by the Conference of East African Governors at their meeting in February, 1933, when they considered that such meetings were necessary for the discussion and co-ordination of research questions with a view to the arrangement of research programmes so as to prevent overlapping.

At the first meeting of the Governors' Conference in Nairobi in 1926, the future development of the scientific and technical services was closely investigated and although up to the present it had not been possible to realise in full the measure of co-operation and centralisation advocated by that Conference, yet Amani had become a very successful central agricultural research institute for the three territories, while a central Human Trypanosomiasis Institute had been functioning in Entebbe for the last few years. The recommendations with regard to a central veterinary research station had not been put into effect, but the Joint Parliamentary Select Committee in 1931 considered that Kabete offered distinct advantages towards this objective.

The convening of group conferences on agricultural, medical, veterinary and trypanosomiasis research was a further step towards the co-ordination that was so desirable in such matters; and he trusted that as a result of the conclusions reached at that, the first East African Veterinary Research Conference of that nature, that Conference would emerge as a valuable advisory body to the Governor's Conference in respect of the co-ordination of veterinary research matters.

Those present at the Conference were invited to concentrate on a programme for research which would avoid overlapping and allocate investigations to Institutions best equipped to deal with them, with due regard to the importance to

individual territories of the problems being considered. They were asked to recommend measures for the centralisation of veterinary research within that group of Colonies.

A solution of the Native stock problem, the Governor said, was necessary unless the progress of the African was to be hindered.

Sir Joseph Byrne assured the Conference that full weight will be given by the Governors' Conference to any financial proposals made.

The Report of the proceedings of the conference will be presented to the Conference of East African Governors and will be the subject of further reference in our columns.

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THE ROYAL SANITARY ASSOCIATION OF SCOTLAND

Memorandum by the Council of the Association on the Further Control of the Milk Supply from a Public Health Standpoint

This Memorandum is prepared in accordance with the following resolution passed at the Fifty-eighth Annual Congress of the Association: "That it be remitted to the Council of the Association to consider the most desirable course of action to recommend regarding the further control of the milk supply from a public health standpoint, and to prepare and submit a memorandum to local authorities on the subject, with recommendations if so desired." It is realised that the interest of the Association begins where the health of the consumer is prejudiced, although the general consideration raises questions of great interest to the agriculturist and also matters which fall primarily within the scope of veterinary medicine. The observations are thus confined to such diseases as are communicable to man through the medium of the milk supply and to a discussion on preventive measures in relation to the production and distribution of milk, with special regard to bovine tuberculosis in Scotland.

The Memorandum is divided essentially into two parts, the first dealing with the common infectious diseases liable to be spread by milk, such as scarlet fever, diphtheria, enteric or paratyphoid, epidemic sore throat, undulant fever, etc. The latter deals with tuberculosis of bovine origin. Finally, the question of graded milks in Scotland is dealt with, their supply and demand discussed and their classification described.

The Memorandum quotes liberally from reports by the Medical Officers of Health of Glasgow, Edinburgh and Dundee, on epidemics of milk-borne diseases and also from those of certain veterinary officers employed by county councils. The result of the special enquiry on the milk supply of Scotland carried out by the Department of Health for Scotland with a grant by the Empire Marketing Board, is referred to and mention made of the Memorandum on Bovine Tuberculosis in Man issued by the Ministry of Health in 1931.

The Royal Sanitary Association for Scotland then summarises certain conclusions it has come to, which in effect are merely a further plea for the more general pasteurisation of milk, and it advocates permissive powers being given to the larger urban authorities for this end. It also recommends many of the other methods usually suggested for the improvement of the milk supply, such as the increased veterinary examination of herds, an increased production of tubercle-free milk at a reduced cost, and so on.

In a word, this Memorandum is merely a recapitulation of the present state of our knowledge on the milk supply and is practically on the same lines as the report "A Survey of Tuberculosis of Bovine Origin in Great Britain," recently published on this subject by the People's League of Health. The Memorandum contains two appendices and is clearly printed and well got up.

D. S. R.

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FORTY GREYHOUNDS FIGHT IN EXPRESS

Forty greyhounds in a van attached to the Night Scot express from Aberdeen to London were found at Crewe on Tuesday to have fought together. Three of the dogs were seen to be dead at Carlisle, and a message was sent to Crewe, the next stopping place, for a veterinary surgeon.

On opening the door of the van at Crewe officials found a number of dogs growling and snarling, many were prostrate on the floor of the van, and others were bleeding from severe flesh wounds.

For some time it was impossible to enter the van, as several of the dogs stood guard over the dead ones, and when officials attempted to enter the animals became even more ferocious, but Captain R. M. Lee, a veterinary surgeon, was eventually successful in pacifying them.

The three dead dogs were taken from the van, and three others were so mutilated that they had to be destroyed. Sixteen others had their wounds dressed.

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BABY WITH A TAIL

The Times of February 1st recorded that, a fortnight previously, a baby girl was born in London with a tail 2-in. long. The child was taken to the Metropolitan Hospital, when a few days old, the parents stating that the tail was evident from birth. It is about 2-in. long, tapering to a point, and is curly. Its position is the same as that of a monkey's tail. It has sensitivity and is apparently formed by normal flesh. The child is a perfectly healthy baby. The report continues: "Surgeons are of opinion that the tail will be removable without affecting the child's health in any way. Professor Julian Huxley stated yesterday: 'The development of a tail is an unusual but not unknown phenomenon among human beings. Different parts of the body develop at different rates during the embryonic stage. Usually the tail does not develop at all, but in this case apparently it has grown almost at the same rate as the other parts of the baby's body. In the rare instances in which such phenomena have appeared they have seldom reached a length of 2-in.'"

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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"SHEEP SCAB CONTROL IN YORKSHIRE"

To the Editor of The Veterinary Record

Sir,—At a time when strenuous efforts are being made to avoid a split in our small profession it is regrettable and surprising to see

published in *The Veterinary Record* such a letter as that from Mr. J. W. Hall Masheter in your issue of February 3rd. The letter in question raises points which could be replied to with considerable effect, but in the interest of the profession as a whole, it is not considered advisable to enter into such a discussion at the present time, although if such attacks on the whole-time veterinary service are to be continued it will not be surprising if whole-time officers reply to such criticism, when it is to be feared things will be said and written which cannot fail to be discreditable to the profession in general and to the part-time inspector in particular. I beg to suggest that it would be in the interest of all if our efforts were concentrated on reuniting the profession and thus regaining our proper status.

Yours faithfully,
J. A. Dixon.
Chief Veterinary Officer.

Public Health Department,
12, Market Buildings,
Vicar Lane, Leeds, 1.

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TUBERCULOSIS IN SWINE.

To the Editor of The Veterinary Record

Sir,—At the recent meeting of the Southern Counties Veterinary Society, attention was drawn to the incidence of tuberculosis in swine, and the necessity, in the absence of evidence of infection from cattle, of investigating the poultry, should these be showing signs of the disease. In a recent memorandum to the County Medical Officer, in which I was able to trace the infection to the poultry on the premises which had been dying for some time past, I advised that authority should not only be given to the veterinary inspector to examine and if necessary kill birds in such cases, but that, when notification was received of the seizure of pig carcasses for this disease, lesions might be examined to determine if possible if avian tuberculosis was responsible. In his reply the County Medical Officer gives the following figures for 1932 and 1933, which may be of interest:—

"In 1932, pig notifications were more prolific and showed 12·19 per cent. as against 7·69 per cent. in respect of cows. In 1933, in respect of those cases in which definite action was taken by me to obtain either veterinary inspection or bulk sampling by sanitary inspectors, the percentage of tubercle-infected cows subsequently found and slaughtered was 18·18 per cent. in respect of pig carcasses, and 18·75 per cent. in respect of cow carcasses." He adds that the notifications of infected pigs in this County are hardly less prolific in the discovery of tubercle-infected animals in the herds concerned than in the case of tubercle-infected cow carcasses.

It would be of interest if County Veterinary Officers could record their findings in their respective Counties.

Yours faithfully,
J. F. D. Tutt, f.r.c.v.s.

Winchester.
February 7th, 1934.

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EUTHANASIA IN THE DOG BY INJECTION OF CHLOROFORM

To the Editor of The Veterinary Record

Sir,—It is not my wish to reopen the question of small-animal euthanasia, which received full consideration in these columns some months ago, unless perhaps to add my vote to those who wrote deprecating the use of prussic acid, strychnine, and the coal-gas and chloroform lethal chambers, all of which methods leave much to be desired either from a humanitarian or practical viewpoint. I should like, however, to bring to the notice of those members to whom it is new a method which I have used in dogs, which I have found most satisfactory, and which can be as painless as shooting and electrocution—to my mind the most humane methods—without having the æsthetic objections and risks of the former, or the limitations and cost of the latter. I refer to the intrathecal injection of chloroform, without or with preliminary administration of morphia and/or a local anæsthetic.

For the operation a needle 1·5-2·0-in. long, and of diameter 1·65-1·85 mm., fitted to a 5 c.c. Record type syringe, is required. Assistance is desirable, though where morphia has been given the operation can be performed single-handed. The subject's head is flexed in what may be described as a "bearing rein" position, and the needle inserted obliquely downwards and forwards from a point on the median line of the skin of the poll ½-1-in. behind the occipital protuberance, through the muscles and dorsal atlanto-occipital membrane, into the medulla, where the injection is made. Death is instantaneous, with immediate and complete arrest of all vital functions, including the heart. The objectionable and often embarrassing death cries and convulsions, *ante-* and *post-mortem*, associated with several other methods, are absent.

I do not suggest this method as of universal applicability. For reasons of restraint it is not to be recommended for use on hysterical, vicious, or very powerful animals unless morphia is given, which is, of course, preclusive in the majority of cases. But apart from the technical difficulty, which is not great, the method has, for other cases, every advantage and no disadvantages, as is unanimously agreed by those colleagues to whom I have had opportunities to demonstrate it. Preliminary administration of morphine sulph. 1 gr., of course facilitates the procedure. If a local anæsthetic is used, either injected or as an ethyl chloride spray, I think it can be justly claimed that death is absolutely painless, but in any case, it is no more painful than an ordinary intramuscular injection. The combined method is particularly useful where clients request, and are prepared to pay for, morphia and chloroform, and wish to be present at the death. The time, trouble, and frequently, struggling, associated with the administration of chloroform by inhalation, and the anxiety of ensuring that a fatal dose has been administered, are all eliminated.

In conclusion: inasmuch as the method is of its nature practicable only for the veterinary profession, and outside the scope and skill of the vast majority of quack practitioners and chemists, nothing but good can come of its adoption.

Yours faithfully,
E. O. Longley.

Pirbright, Surrey.
February 7th, 1934.

The Editor acknowledges, with thanks, the receipt of the following:—

Communication from Mr. J. Carmichael (Uganda).